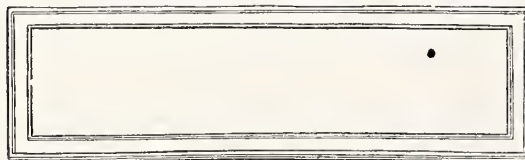
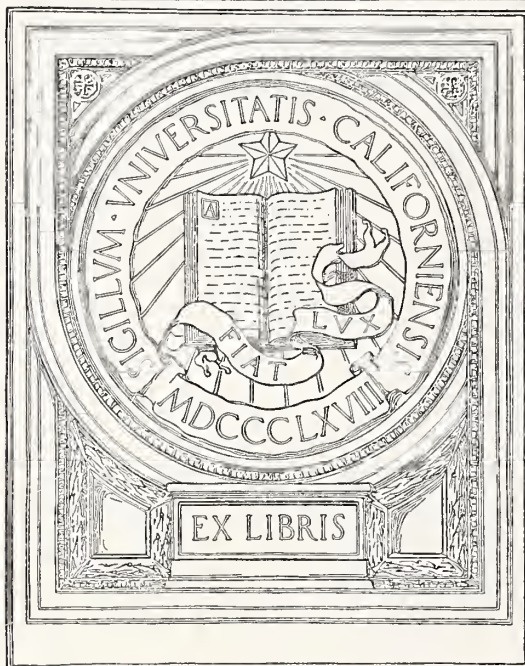
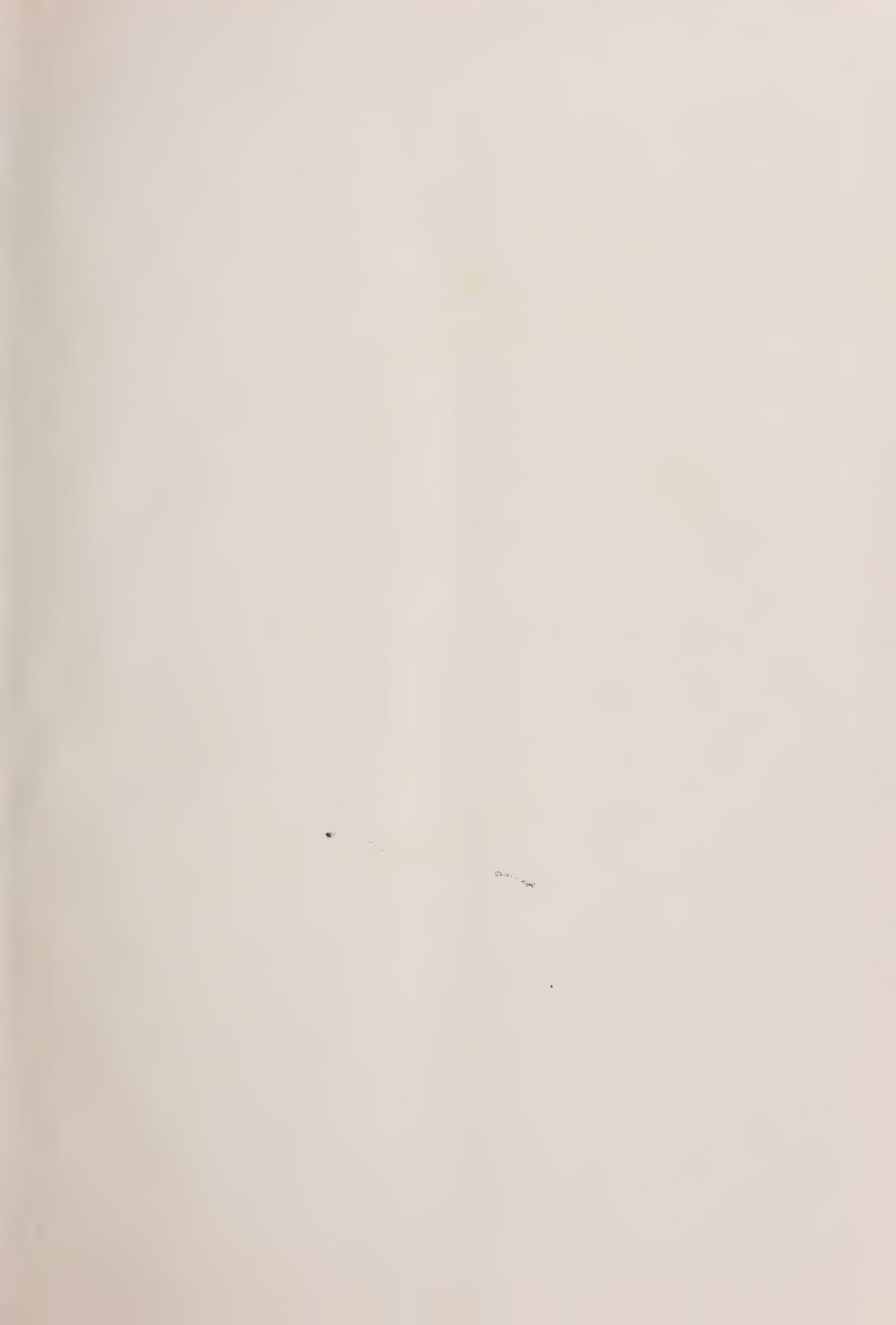
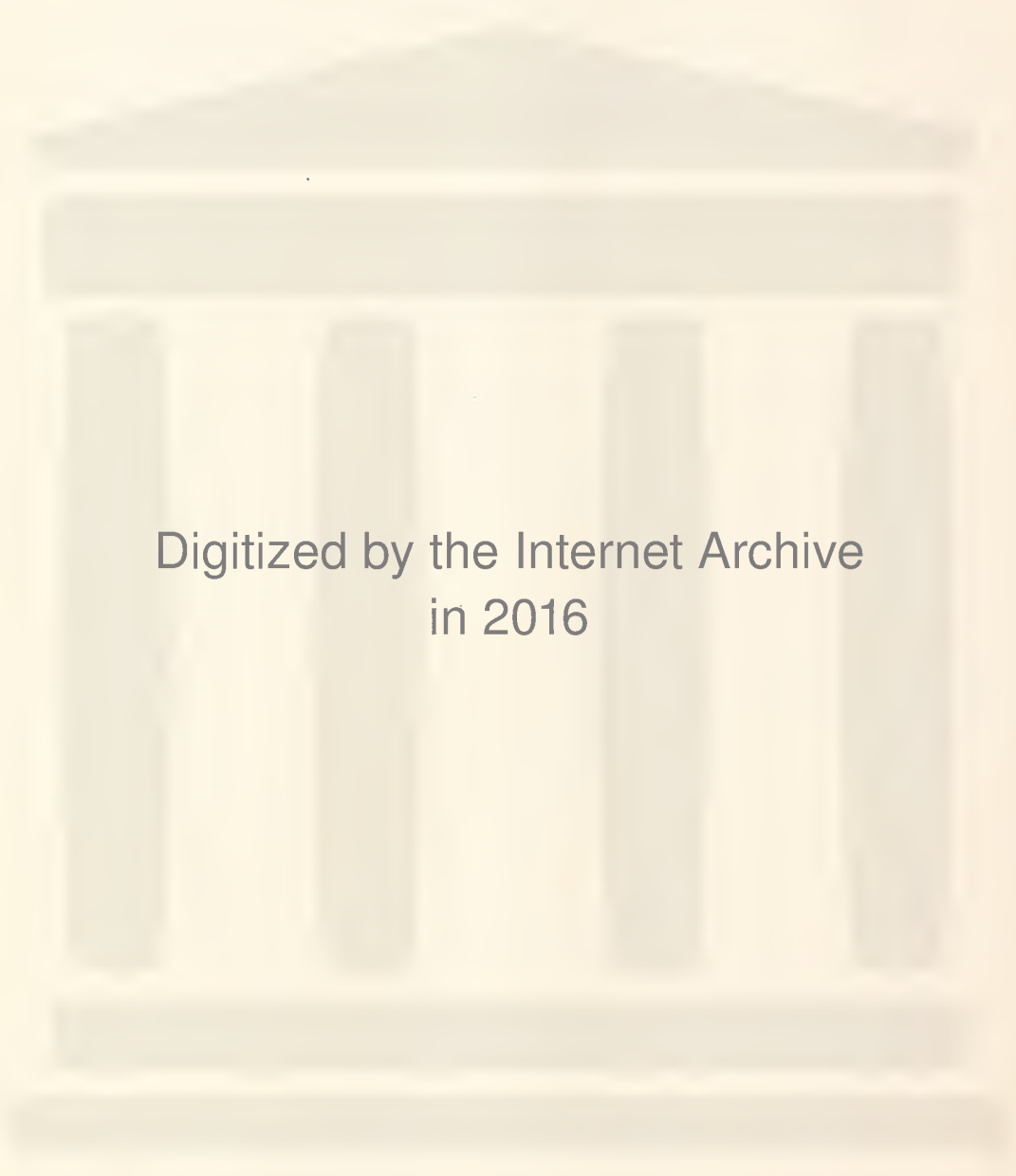


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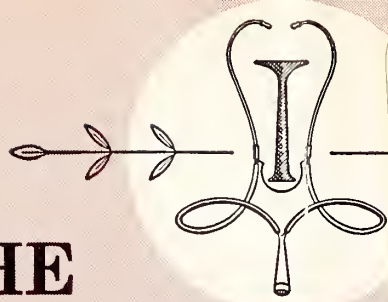






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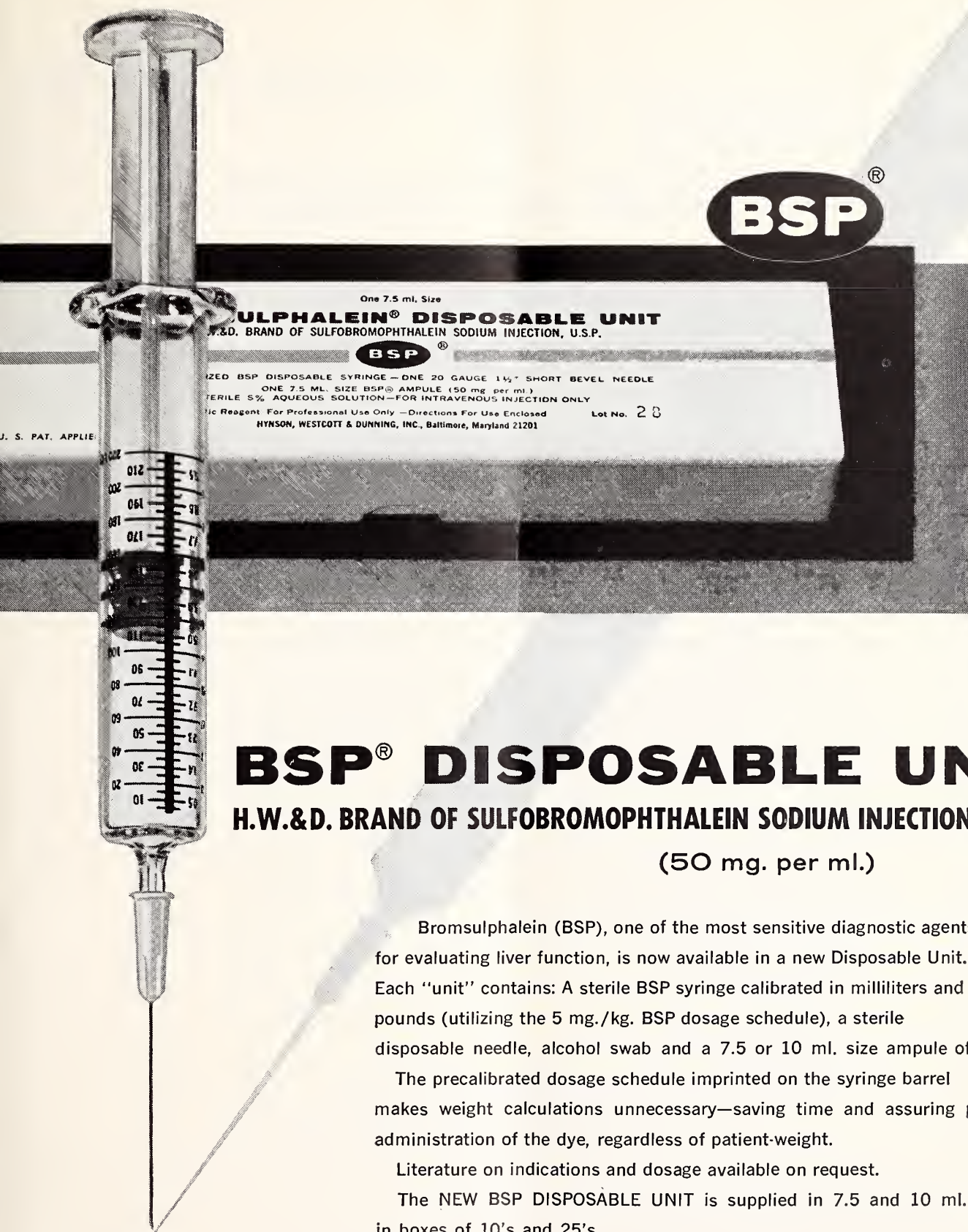
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Special Psychiatric Issue

We are pleased to again present to the readers of the JOURNAL an issue devoted to psychiatry and its relationship to general practice. The papers of this number have been provided under the leadership of Dr. Roy W. Menninger, for the Committee on Mental Health, as the third such annual issue.

The members of the Editorial Board hope, and believe, that it will be a useful collection of papers for our members.



Psychotherapy

Specific Techniques in Medical Practice

WERNER M. MENDEL, M.D., *Los Angeles**

ACCORDING TO ONE DEFINITION, psychotherapy is a method of treatment which utilizes psychological techniques in altering ideas, emotions, behavior, physiology and attitudes which are symptomatic of emotional or mental illness. In any physician-patient relationship, psychotherapy so defined occurs at all times. It occurs whether the physician is aware of his psychotherapeutic activity, whether he knows the techniques, or whether he unconsciously follows his own impulses. We can say that the patient is influenced by the physician in the very nature of the transaction. When this influence is helpful, we say that treatment is therapeutic in that it moves the patient toward a better state of health and adaptation. If the particular transaction and intervention by the physician is not helpful, or indeed hurts the patient, the intervention is antitherapeutic. Thus, whenever a patient and a physician get together within a medical transaction, psychotherapy occurs. If the physician is thoughtful, understanding, non-judgmental, and concerned, the chances are that the transaction will be helpful to the patient and thus be therapeutic.

However, mere possession of these important qualities is not enough. These qualities represent attitudes

which are prerequisites in any good physician and psychotherapist, but they are not techniques of psychotherapy. Just as a good surgeon must have some talent for the handling of tissues and some dexterity in carrying out procedures, so the psychotherapist

Presented here is an outline of the basic differences between the two important and widely employed types of psychotherapy, namely, repressive and expressive techniques, with the specific approaches for three kinds of clinical situations: fear, depression, and psychosis. It is intended to give the physician some idea of factors to be considered in their treatment situations.

must have the prerequisites of being a thoughtful, understanding, considerate, and easily approachable physician. But in addition the psychotherapist must learn, understand, and know how to apply specific treatment techniques, just as a surgeon must learn operative techniques. Knowledge of some of the more simple techniques may be useful to the physician in medical practice in the treatment of his patients with emotional or mental problems.

* Presented at a course of psychiatry for internists sponsored by the American College of Physicians.

Dr. Mendel is Associate Professor of Psychiatry, University of Southern California, School of Medicine.

Conditions of Psychotherapy

Basic to any psychotherapeutic transaction are two conditions which should be met. First of all, the therapist must be somewhat less anxious than the patient. Secondly, the therapist must be the one who is in charge of the transaction and who manages it to fulfill the therapeutic intent.

It is a common misconception that there is only one kind of psychotherapy, and this consists of allowing and helping the patient to express his innermost feelings. It is further assumed that the expression of these feelings is in itself therapeutic. Such a misconception leads the inexperienced psychotherapist to encourage every patient who comes to his office with emotional problems to express whatever is on his mind and to give vent to all his feelings. Some therapists have gone so far as to aid this expression with hypnosis or with drugs such as ritalin, lysergic acid, and amytal. Unfortunately, these drugs are frequently not an aid in treatment. Many patients get much worse from this uncovering treatment approach; indeed, in the prepsychotic or borderline patient an overt psychotic reaction can be readily precipitated. But even for the neurotic or personality disordered patients for whom the process of looking at feelings and thoughts is useful, the mere expressing of feelings is not enough; it is only one aspect of treatment and will not lead to recovery by itself.

Types of Psychotherapy

There are two basic types of psychotherapy, expressive (insight, definitive) and repressive (supportive, maintenance). Expressive psychotherapy is indicated for the neurotic patient, the personality disordered patient, the patient with psychophysiological reactions; in fact, for any patient whose adaptive capacity (ego function) shows no major disorganization. Repressive psychotherapy is the treatment of choice for the psychotic or borderline psychotic patient whose adaptive capacities show major disorganization.

Expressive Psychotherapy

Expressive psychotherapy consists of creating an atmosphere in which the patient is encouraged to express his feelings, thoughts, fantasies, dreams, and wishes. In the first stage of this treatment, the patient—with the collaboration of the physician—confronts himself with what he is doing, what he is thinking, and what he is feeling. The physician holds up a mirror and lets the patient look at himself—for the first time, perhaps, in a way he has never before seen himself. In the second stage of the expressive approach, the patient with the guidance of the physician traces some of the history of his present attitudes and behavior. In psychoanalysis, which is one type of expressive psychotherapy, this aspect of the

treatment is very much emphasized. But in all expressive psychotherapies, some attempt is made to help the patient to understand the life history of his thoughts and attitudes.

The untrained psychotherapist frequently stops here and makes the assumption that he has carried out a successful psychotherapeutic intervention. This is not the case. Unless stages three and four are reached, the patient is much less likely to improve permanently. He may only learn to speak the psychotherapeutic jargon and satisfy the intellectual curiosity both of himself and his physician. No patient ever got well in the consulting room. Patients only get well in life.

The third stage of the expressive psychotherapies consists of helping the patient to recognize clearly the alternative ways of handling his present predicament. The patient is guided to the understanding that although his methods of handling conflicts might have been appropriate when he was a child with a very limited armamentarium of defenses, he has now, or can develop much better ways of handling his conflicts. The fourth stage, and by far the most important, is to manage the psychotherapy relationship in such a way that the patient will find the courage and motivation to try out some of the things he has learned. This is done by techniques which involve management of the dependent aspects of the doctor-patient relationship by giving enough support to the patient so that he can risk failure without being overwhelmed and immobilized by anxiety and fear.

Repressive Psychotherapy

Repressive psychotherapy is conducted very differently. As mentioned previously, it is usually the treatment of choice for the psychotic and borderline patient. If the psychotic or borderline patient is treated with expressive methods frequently his symptoms will show a marked exacerbation. In fact, this exacerbation occurs so consistently that this method is sometimes used as a therapeutic test. If the physician cannot decide whether a particular patient is psychotic or neurotic, he could engage in the non-structured, expressive psychotherapy and he will find that many borderline patients will display the underlying psychotic thought processes. Repressive psychotherapy consists in helping the patient to repress the unconscious thoughts and feelings which are erupting into consciousness due to the serious defects in the adaptive capacities or, as they are frequently called, ego functions. We do this aiding in repression by focusing on action rather than on thoughts, fantasies, wishes, dreams, and hallucinations. We allow the patient to express whatever he wants to, of course, but by the selective listening to and responding to statements we conduct repressive psychotherapy.

Expressive vs. Repressive

To demonstrate the difference between expressive and repressive techniques, take the patient who opens the interview with the statement, "I had a terrible time finding a parking place this morning." If we responded to his statement by asking, "What are your feelings about that?", he would probably express angry, resentful feelings about being unwanted, or being a second-class citizen. If, however, this were a psychotic or borderline patient with whom we were engaged in repressive psychotherapy, we might respond by saying, "Where did you park?" In this way, the patient would learn that we are primarily concerned with action. By not responding to the feelings, thoughts, fantasies, wishes, dreams, and hallucinations, we help the patient to repress. Of course, this explanation is considerably over-simplified, and it should be recognized that on occasions it is necessary to allow the psychotic patient to express some feelings and to respond to them in a supportive way.

Both the chronic and acute psychotic patients need help with repression. As mentioned previously, in this treatment we emphasize a focus on action. In essence we convey to the patient, "We know you have lots of feelings, fantasies, dreams, and wishes which frighten you and which you cannot understand and which others cannot understand. However, you will have to learn to recognize these, and not let them influence what you do. What we are concerned with here and what the world in general is concerned with is what you do." Such a statement characterizes the repressive treatment technique, but again it should be emphasized that this is *not* given as a lecture to the patient but rather carried out in the transaction. The repression in the psychotic patient may be further aided by the use of pharmaceutical agents.

We recognize in the psychotic patient the severe impairment of adaptive capacity. Until repression is again fairly effective, we try not to strain these mechanisms unduly. For this reason, we would take all measures to simplify this patient's life so as to make a minimum demand on his adaptive functions. In the extreme case, the patient must be hospitalized. We literally take over for him. In less severe cases, the repressive environment can be created in the home setting by reducing the demands on the patient in terms of judgments and decisions he must make. He should be encouraged and helped to simplify his life and to engage in repetitive activities which require a minimum of integrative capacity.

Reassurance

The method of psychotherapeutic intervention most useful to the general practitioner is "reassurance," which is one form of supportive psychotherapy. Essentially, the reassuring activity by the physician con-

sists of letting the patient know that we recognize the feelings, that we are willing to let him talk about these feelings, and that we can accept him with a non-critical attitude. Reassurance in the interview is an integral part of what occurs between the patient and the doctor but it is not necessarily directly related to the words that are spoken. The skillful handling of this aspect of the interview will enhance the physician's ability to comfort the patient and to alleviate symptoms. Essentially, the physician's reassuring activity can be summarized as: "I hear you. I can try to understand you. I can accept you. I am not critical. We will collaborate in this effort to understand your difficulties."

Of course, the physician does not make these statements to the patient in this way. He must translate these slogan phrases into practical terms. He can do this best by learning to listen to the music rather than to the words; that is, by focusing on the process rather than on the content. Such statements as, "Now, now—you don't need to cry," or "Don't be afraid; this isn't going to hurt," are not reassuring. They do not imply that the physician can hear, understand or accept. Rather, they imply that the physician is critical, that he will not accept emotional and cowardly behavior and that he will not listen to such nonsense as the patient's fear of a common medical procedure.

The physician who is faced with a frightened patient or someone who is about to cry would be much more reassuring if he simply said, "You seem to feel like crying," or "I guess you are a bit frightened of this procedure." Both these statements imply three things: (1) The physician is aware of the fear or the emotional upheaval in the patient; that is, the feeling is being communicated. (2) The physician does not criticize or belittle the patient for having fears or for not being brave. (3) By this simple confrontation, the doctor tells the patient that he is willing to listen if the patient wants to talk about his sadness, fear or concern. He does not, however, demand that the patient talk about his feelings at that time.

Treatment of Depressions

The treatment of the depressed patient is frequently incorrectly handled because the physician follows his natural inclinations, rather than a technique which can be learned and understood. The tendency is to identify with the suffering and to be most kind, sympathetic, and understanding. It is almost automatic to say to such a patient, "Cheer up, things are going to be better." Technically, however, this is incorrect and, indeed, anti-therapeutic with the usual adult depression. From our understanding of the dynamics of the depression we know that the anger which the patient experiences toward others and which he cannot express he then turns on him-

self, resulting in guilt and dejection. If we are particularly sympathetic and giving to such a patient, he will feel even more guilty and misunderstood; this in turn will cause an exacerbation of his depressive symptoms. If, on the other hand, we handle such a patient with a firm (not unkind) and matter-of-fact attitude which allows for a minimum of gratification and if we carry this out not only in our verbal interchange but also in action, then the depression will lift.

This firm, matter-of-fact, somewhat distant, non-gratifying attitude helps to lift the depression faster than any other psychotherapeutic approach. Such a treatment program can be carried out by the non-psychiatric physician in his private office practice. It requires getting the cooperation of the family and explaining to them the reason for carrying out such a technique. For example, let us say the patient is a middle-aged and depressed woman who is, at the moment, unable to function in her role as a housewife and who sees a physician because of her physiological aspects of the depression: insomnia, agitation, anorexia, and constipation. Once the physician recognizes the depression, he can then institute the anti-depressive regimen. This would require that the patient get out of bed to carry on her household duties and functions no matter how bad she feels. It will also require that the physician be firm and say, in essence, "I know how bad you feel. I know how difficult it is for you, but just the same, you get up. You must do your work. This is necessary and important for you to get well."

As the patient improves, she becomes aware of her angry feelings. She may even feel free to express some of these angry feelings toward the physician. Of course, let us hasten to add that this is only the beginning of the treatment of depression and that it is primarily a technique for the relief of symptoms. Subsequently, it is necessary to do appropriate psychotherapy in order to help the patient to recognize her life style and defensive structure so that in the

future aggressive, angry feelings can be managed in a more adaptive manner. This technique of lifting depressive symptoms is a good example of specific intervention based on understanding of pathological dynamics. (We should also add that there are depressions (anaclitic) in which the dynamics are quite different and where the patient needs intensive support, e.g. "narcissistic supplies," rather than a non-gratifying approach. However, these depressions are relatively rare in adults, and require more specialized psychotherapeutic techniques.)

This, then, is an outline of the basic differences between the two important and widely employed types of psychotherapy, namely, repressive and expressive techniques, with the specific approaches for three kinds of clinical situations: fear, depression, and psychosis. It is intended to give the physician some idea of factors to be considered in their treatment situations. Although the physician must be tactful, understanding, willing to listen, and concerned, this in itself is not enough. He must understand the psychodynamic mechanisms of symptom formation in order to prescribe the correct treatment. He must be aware of the available techniques with some knowledge of indications and contra-indications for their application.

References

1. Balint, Michael: "The doctor, his patient, and the illness." *Lancet*, 268:683-688, 1955.
2. Bird, Bryan: "Talking with patients." J. B. Lippincott Co., 1955.
3. Fromm-Reichmann, Frieda: "Principles of intensive psychotherapy." Univ. of Chicago Press, Chicago, 1950.
4. Hacker, F. J.: "Concepts of normality and its practical significance." *Am. J. of Orthopsychiatry*, 15:47-64, 1945.
5. Hall, Bernard: "Prescribing hospitalization." *Bulletin of the Menninger Clinic*, 22:207-213, 1958.
6. Knight, Robert: "Borderline states." *Bulletin of the Menninger Clinic*, 17:1-12, 1953.
7. Mazzanti, Vincent and Bessel, Harold: "Communication through latent language." *Am. J. of Psychotherapy*, 10:250-260, 1956.
8. Mendel, Werner: "The medical interview." *G.P.*, 29: 118-124, 1964.
9. Menninger, Karl: "Theory of psychoanalytic technique." Basic Books, 1958.

DEATH BY DEFAULT

The public must be protected of course, but isn't there such a thing as over-protection? Certainly it is no problem to prevent the introduction of any drugs with potentially harmful or mildly harmful side-effects. It's simple—just don't develop any new drugs, or at least make it very difficult for a new drug to be tested and/or marketed. The only difficulty here is that many lives and the improved health of many others would be lost by default, that is, drugs that could be of benefit would never be developed. This is just as wrong as allowing anything and everything to be pushed onto the drug market. For the non-medically orientated it is quite easy to understand the sad results of a thalidomide deformed baby but far less easy for many to comprehend the equally sad results of those lives that can be lost by default.—Joseph P. Schaefer, M.D., in *New Physician*, 13:10, (Oct.) 1964.

The Mask of Depression

A Detailed Review of the Many and Motley Symptoms of Depression

PAUL E. FELDMAN, M.D., *Topeka**

NOT TOO LONG AGO, the suspicion that a patient might have an emotional disorder almost inevitably led to a referral to a psychiatrist or to hospitalization of the patient in a psychiatric facility. This was due to a number of factors; certainly psychiatrists themselves contributed to this practice by their insistence that patients with emotional disorders be referred to them. Also, the public attitude regarding mental illness played its part. But equally important was the fact that the armamentarium available to the general practitioner for the treatment of emotional disorders was a most limited one.

In recent years attitudes towards mental disorders have changed and the medical profession (and the lay public) have become much more dedicated to recognizing mental disorders as acceptable illnesses. One result has been a shift of emphasis from treatment in mental hospitals to the treatment of the psychiatric patient within his own community or environment. This redirection brings many more psychiatric patients under the care of the family doctor.

We are now cognizant that in many instances hospitalization is not only undesirable, but may in fact be detrimental to the patient. We are developing a philosophy that the emotionally ill patient should be treated in his natural setting—that as few roots as possible be disrupted by the treatment plan—whether these roots be social, sexual, personal, economic, fraternal, industrial, etc. The more roots that are maintained intact during treatment, the better will be the prognosis.

With an improved understanding of the nature of mental illness, we are becoming aware that the great majority of psychiatric patients do not require the services of the psychiatrist-specialist. In fact, by choice, the family physician proves to be the ideal agent to handle many emotional disorders.

Fortunately, this new orientation occurs at a time when better methods of brief psychotherapy have been developed, and, equally important, at a time when effective chemotherapeutic agents have been developed.

These observations are particularly relevant insofar as various types of depression are concerned. It is important to recognize that depressive reactions are self-limiting processes. Eventually, with or without treatment, depressed patients emerge from their depression. There is no other psychiatric disorder which is so consistently a self-limiting process.

Depressive reactions vary in symptom and severity as well as treatment needs. Brief case summaries are provided to emphasize these variants as well as treatment methods and potential. Certain more recently available medications are antidepressant and provide additional therapeutic assistance to the therapist who in most instances may be the general practitioner.

It is relevant to note that there is ample evidence that a substantial number of depressed patients are being treated successfully by general practitioners who carefully select their cases.

Case Reports

For purpose of illustration, the following case is the type of depression that the general practitioner would be wise not to treat: Mrs. J. calls your office and requests an immediate appointment for her husband. The sense of urgency which you note in her voice prompts you to arrange an immediate appointment. Mr. J. (the patient) is 56 years old and you have been his physician for many years.

When he arrives at your office you are immediately impressed by his changed appearance and behavior. Mrs. J. has great difficulty persuading him to enter your office and he makes it quite apparent that he wishes her to remain with him. He sits before you in a slumped position, his head is bowed, his brow is deeply furrowed, his eyes are lusterless and his shoulders are sagged. He seems preoccupied and presents a picture of physical and psychic pain. He remains seated and motionless and only rarely attempts to make any response to your questions. In the few instances in which he does respond, he speaks with

* Director of Research and Education, Topeka State Hospital, Topeka, Kansas.

A version of this paper was presented in Seattle and Hawaii, October, 1964, for a Roche symposium on mental health.

great effort and in a low voice, obviously preferring to remain silent, immersed in his own thoughts. The aura he conveys is one of hopelessness, dejection and despondency.

Mrs. J. provides most of the clinical history because of Mr. J.'s reluctance to talk. She states that he has not been well for about six weeks. The first symptom that she noted was difficulty in sleeping, and she adds that the pills you prescribed for her insomnia were not effective for him. For the past two weeks Mr. J. has not left the house, just sits motionless and withdrawn. He has been eating very poorly, and she has not succeeded in tempting his appetite even with his favorite dishes.

Mrs. J. states that occasionally she is able to engage him in short periods of conversation but that his replies suggest that he is confused and preoccupied. On several occasions he intimated concern that he might have cancer. On another occasion he told her that he was responsible for all the racial strife and that if he were dead most of the nation's problems would be solved. Mrs. J. states that this remark did worry her, but "he hasn't done anything about it so it must have been just talk."

Your persistent questioning of Mr. J. reveals that he has a number of somatic complaints: headaches, constipation, epigastric distress, and he has lost 20 pounds during the past six weeks.

One does not have to be a psychiatrist—or a physician—to make a diagnosis in a case of this type. The combination of feelings of hopelessness, dejection, despondency, low self-esteem, feelings of guilt and worthlessness, severe psychomotor retardation and somatic complaints are a classical example of severe depression which will require intensive psychiatric care. You make a recommendation to that effect and a referral to a specialist.

The case of Mrs. S. is an example of a not-so-obvious type of depression. Mrs. S. is in her early fifties and has been your patient for many years. In the past her health has been excellent—until about a year or so ago when she began to have a myriad of complaints.

Initially, these were complaints of epigastric distress with subcostal pain, heart burn, acid stomach, sour stomach, etc. Examination and evaluation revealed no legitimate physical basis for the complaints. An antacid and an antispasmodic were prescribed with adequate symptomatic relief. A short time later she returned with complaints of severe constipation alternating with diarrhea. This also was transitory and responded to symptomatic medication.

In a few weeks she returned requesting a biopsy for what she thought was a lump in her breast. Your examination failed to confirm her fears, and she seemed to be reassured. On another occasion she re-

quested an x-ray for what she believed to be a tumor of the stomach. This, too, you ruled out.

In addition, she complained from time to time of insomnia and what she referred to as "anxious periods" during which she experienced feelings of tension, tremulousness and a sense of impending disaster. There were also complaints of tiredness not relieved by rest, a loss of appetite, and a loss of weight.

During this entire stressful period, though her spirits were not remarkably high, she did not appear to be particularly depressed; she was able at times to smile at some of your attempts to encourage and cheer her and at no time did she herself ever state that she felt depressed.

In a clinical picture such as this, it is well to include in the differential diagnosis the possibility of a depression manifested by acute somatic conversions.

This patient you did undertake to treat. You prescribed an antidepressant best suited for someone in her situation and with her medical history. Her household duties and responsibilities were lightened by your directing her to hire some household help, and she was seen by you on a weekly basis for check-ups and regulation of medication at which times you supported her, complimented her on the progress she was making and in every way possible encouraged her.

In the course of these weekly visits some rather revealing information was elicited which corroborated your diagnosis of a situational depression—a philandering husband (with whom you had a long and effective talk)—a teen-aged daughter who was pregnant (and for whom you arranged for delivery and adoption)—and all sorts of fancied financial and social problems, some of which were within your scope of influence.

This case did have a favorable outcome despite the fact that you had not referred the patient to a psychiatrist.

Factors Determining Referral

A primary screen in determining whether to retain or refer a depressed patient is the matter of the self-destructive potential of the patient. All subsequent screens are dependent upon this crucial issue. The suicidal patient is simply not an office-practice type of patient. Only rarely can severely depressed patients be provided with the protection that they need outside of a structured hospital setting.

There are various manifestations of masked or occult depression which can be present in patients who overtly do not appear to be depressed. Keep in mind that only one symptom has to be present in order for a syndrome to be an occult depression. These symptoms may be of a somatic nature or a reflection of a disturbance of the psyche.

High on such a list of the possible somatic symptoms would be those symptoms which are referable

to the gastrointestinal tract. And of these, loss of appetite is the most common and the most suggestive. It may be present as simply a loss of interest in food or a finicky predisposition towards food. Some patients will tell you that food has lost its taste. Some are even nauseated by the taste, smell or sight of food. Others may have none of these complaints but find that a fraction of their usual food intake is more than adequate to satiate their appetite.

Others will refuse food because of a desire for death or because of guilt feelings, thinking that they do not deserve food; or they may have nihilistic delusions which lead them to believe that they have no stomach or other weird concepts which they are able to think of. Still others with paranoid trends will refuse food because they believe it to be poisoned.

Regardless of the reason for poor food intake, approximately 75 per cent of depressed patients will show a weight loss. It is a most important diagnostic sign.

Other digestive disturbances are also common. Some will complain of gastric distress, abdominal pain, "biliousness," indigestion, nausea and vomiting. Depressed patients are particularly conscious of their bowel function and approximately 80 per cent of them will report constipation.

Sleep disturbances are the rule and not infrequently may be the only presenting symptom. These patients have difficulty falling asleep, awaken early, and are unable to return to sleep. To compound the problem, the insomnia of depression seems to be particularly resistive of sedation.

Disturbances of sexual function may be prominent and occasionally the only presenting symptom, especially in males. In general, depressed patients show decreased sexual drive. The patient may tell you that he has become impotent, but it is probably not a true impotence but rather a general lack of interest in sex.

Tiredness or fatigue may be among the earliest signs of an incipient depression. The feeling is not caused by excessive work nor does it seem to be relieved by rest.

Not infrequently, inner stresses or dissatisfactions are rationalized by the patient as physical disease and this leads to hypochondriacal complaints. Many will complain of distressing sensations in their body and particularly their head. Some are convinced that their brain is wasting away or that segments of their body are rotting; or that they have a strange, incurable disease, which they are able to describe in minute detail.

Headaches may be present and of an infinite variety. Some patients may not complain of headache, but rather a sense of constriction of the head as though it were being clamped in a vise or encircled by a compressing steel band. Many clinicians have

noted that patients who complain of a sense of constriction of the head seem to have serious suicidal potential.

Alcoholism, particularly what has been referred to by some authors as "periodic alcoholism" may be a manifestation of depression. The patient will drink excessively for several months and then become a teetotaler, only to go on another spree later—repeating the cycle a number of times. Some incipient depressives seem to resort to intoxicants for sedative or hypnotic effects and to all outward appearances seem to be ordinary alcoholics. Typically, when these patients emerge from their depression their need for alcohol is obviated and they do not drink again until entering the next depression.

Among the best clues to an incipient or occult depression are manifestations of the patient's psychic functioning. Complaints of inability to concentrate, many times expressed as "my mind seems muddled or confused," crying spells, worry over finances—particularly when out of proportion to actual financial straits, worry about health in the absence of a serious physical disease, a narrowing of interests, personality changes in the direction of increased irritability, peevishness or pessimism, preoccupation with past sins, particularly if you know that their transgressions were trifling in nature, feelings of need to be punished, feelings of self-blame or self-destruction, all of these are alerting signs of a possible depression.

Often an appreciation of the personality profile of the patient is of considerable assistance in the differential diagnosis of occult depression. Most of these patients can be described as inhibited individuals, quiet, unobtrusive, serious, chronically worrisome, intolerant, reticent, sensitive, scrupulously honest, frugal (even penurious), stubborn, with an unbending moral code, lacking in humor, over-conscientious, easily offended and tending to respond excessively to minor criticism, and given to self-punishment.

Their personality structure is marked by rigidity. They are perfectionistic and exacting of their own standards of behavior. Some are prudish and prone to feelings of guilt. Obsessive-compulsive tendencies are prominent.

In a person with such personality characteristics, be alert for the possibility of a depression. Once the diagnosis of depression is made, the crucial issue is the decision as to whether to treat the patient yourself or refer the case to a psychiatrist. If the patient is a suicidal risk, hospitalization or referral is mandatory. If the patient (or his relatives) minimizes your warning of a suicidal risk, it may be wise to refuse to assume any responsibility for such a patient. It is advisable to obtain a written record of such refusal to accept your recommendation as this alone may protect you from future unpleasant litigation.

There will be occasions when your examination will not clarify the suicidal risk. A useful screen to assist you in arriving at a decision is as follows: As a generalization, *if the patient is over 40 years of age, if unmarried, if he has a serious physical or surgical illness—especially cancer—if it is in the spring or fall of the year, tend to be more pessimistic about the possibility of suicidal risk.*

Other factors in the assessment will be the depth of the depression (the deeper being more serious) and the duration of the depression (the longer the depression the greater the risk), with the added caution that there is equal or greater risk as the patient enters and emerges from the depression.

Any attempts by the patient at concealment of suicidal ideas, the sudden appearance of vegetative symptoms, the presence of nihilistic delusions, a history of past suicidal attempts, the presence of morbid thoughts or dreams, feelings of unworthiness, inferiority or guilt, inability to feel affection for family and for friends, marked depersonalization—all should incline you to consider him a great suicidal risk.

Management

Your initial management of the patient, particularly during the first few contacts, may be crucial. Foremost, keep the patient alive. Patience, plus a sincere interest, plus a thorough evaluation of physical and psychological difficulties, can do much to establish a solid footing for the necessary therapeutic doctor-patient relationship.

Do not disregard their physical complaints, but only investigate them sufficiently to be convinced that they are without physical basis. Do not persist with fruitless and costly examinations and laboratory tests to prove physical causes for symptoms. This does not mean that physical complaints should be ignored. They are very real to the patient and should be accepted at full value.

The psychological treatment of the mild depression is not particularly difficult. It is paramount to explain the nature of the illness in a way the patient is able to comprehend. Stress that the illness is treatable and that the prognosis is favorable. Encouragement is essential. This must be reinforced repeatedly in succeeding meetings.

Be somewhat authoritarian in your instructions to the patient, especially regarding daily activities and medication. Protect him from endeavors in which he may fail since failure reinforces his sense of worthlessness. For you, the treating physician, do not be discouraged by slow improvement.

Pharmacologic therapy is most important in the treatment program. The amelioration or elimination of distressing symptoms is essential and your failure to cope with them may adversely influence the patient's willingness to abide by your treatment regime.

Sleep disturbances are invariably present by the time the patient seeks medical assistance, and these demand your immediate attention. Likewise, the anxiety and agitation usually associated with depression will require prompt alleviation.

Barbiturates and tranquilizers can be invaluable in treating the symptoms of depression. In the treatment of the insomnia, the peculiar nature of the sleep disturbance requires both a fast-acting and a long-acting barbiturate. A combination of secobarbital sodium for fast induction and amobarbital for continuing effect can be effective. Tranquilizers such as chlordiazepoxide and meprobamate can also be useful in treating the insomnia.

Generally, exercise care if you elect to prescribe a phenothiazine because of the tendency of this class of compounds to aggravate a depression. However, if you *do* elect to prescribe a phenothiazine, it should be one with stimulating as well as tranquilizing properties. Trifluoperazine and fluphenazine are such phenothiazines. Among the non-phenothiazine sedatives, diazepam is useful to reduce anxiety and relieve depressive complaints.

Use of Antidepressants

The antidepressants (both the monoamine oxidase inhibitors and the non-inhibitors) are important tools. Newer antidepressant compounds such as amitriptyline and imipramine, though not as fast acting as electroshock, have become very popular and have supplanted the shock therapies. The speed with which antidepressants show effect will vary. In some instances improvement may be noted in hours and then again may take months. On the average, two to four weeks appears a reasonable length of time to expect before there will be any antidepressant drug effect.

Patients on prescribed antidepressant medication oftentimes use home remedies which are readily available in the medicine cabinet and (because of drug-incompatibility or potentiation) in effect, complicate treatment. Consequently, such common substances as alcohol, caffeine, antipyretics, reducing pills, antihistaminics, laxatives, amphetamines and sleeping pills can lead to difficulties.

Impress upon your patient the importance of reporting side effects. It is not within the scope of this paper to cover all possible complications but a few are worthy of mention. Agranulocytosis is a complication of the initial phases of treatment and can be treated successfully if the diagnosis is made promptly. Patients who develop this complication do so usually within the first six weeks of treatment and unless medication is discontinued and restarted, there is little likelihood of it recurring.

The typical patient in which you should suspect such a complication is a female, in her fifties with a pre-syndrome triad of fever of undetermined origin,

sore throat and a lesion of any mucous membrane. This triad should alert you to an impending agranulocytosis. Any part or parts of the triad should be regarded as presumptive evidence of an agranulocytosis until proven otherwise. Treatment stresses massive doses of antibiotics, symptomatic medication and such non-specific measures as pentnucleotides, parenteral fluids and liver extract.

Since many antidepressants are constipating, the possibility of fecal impaction, particularly in aged patients is a likely one. Its symptomatology may mimic that of an acute abdomen and lead to an unnecessary laparotomy.

Severe hypotension of the orthostatic variety may occur in some instances. It is best managed by absolute bed rest (preferably in the Trendelenburg position) and supportive measures such as oxygen, five per cent glucose, and $\frac{1}{100}$ gr atropine or $\frac{3}{8}$ gr ephedrine. In the event that more heroic measures are indicated, be aware that occasionally these compounds reverse the action of adrenaline and consequently, norepinephrine is the drug of choice.

Hypertensive crises may occur, particularly with the antidepressant drugs which are monoamine oxidase inhibitors. The recently publicized incompatibility between tranylcypromine and cheese is an example of this complication. The syndrome is characterized by severe headache, elevated blood pressure, circulatory failure and cerebrovascular accidents. This complication can be treated successfully with pentolamine, pentolinium or with intramuscular chlorpromazine.

Because of the marked atropine-like action of many antidepressant drugs, disturbances of vision may occur. These are best managed with Prostigmin and the local instillation of 0.1 per cent aqueous eserine solution.

The concurrent or successive prescription of a monoamine oxidase inhibitor with a non-inhibitor may result in a dramatic (and lethal) syndrome characterized by decerebrate movements, paralysis of eye muscles, opisthotonus, convulsions, profuse hyperhidrosis, hyperpyrexia and cardiac collapse. This syndrome can be avoided by waiting 7 to 14 days before changing from one class of compounds to the other.

Summary

The treatment of depression with pharmacologic agents, particularly the newer psychotropic agents, presupposes a knowledge of drug action. In order to prescribe these compounds correctly, an appreciation of the principles and practices of psychopharmacotherapy is mandatory, and the importance of instituting a total treatment program must be realized. The physician who prescribes a 30-day supply of an antidepressant drug and instructs his patient to return when drug supply is exhausted does his patient a disservice. These drugs are intended to be only one facet of a total treatment program. When they are judiciously prescribed they make possible favorable outpatient treatment of mild depression by physicians in general practice.

GALLEY PROOF CORRECTIONS

There is sometimes a misunderstanding about changes in an article on the galley proofs and the reluctance of the JOURNAL to make extensive alterations. The reason for this is quite simple and easily understood when one knows all the facts. The article has already been set in type. To make extensive changes requires that the typesetting be done over, at an additional cost which may even exceed the original, because it is slower work to fit pieces together than to set an entire article in type. It is also obvious, when one stops to think about it, that an alteration in the first few lines of a paragraph will probably make it necessary to reset the entire paragraph. This, of course, increases greatly the cost of printing and should be avoided as much as possible. The galley proof is for correction of errors, and a rewriting of the article should be done on the original copy before it is submitted for publication.

British and American Psychiatry

Demand, Supply and Consultation in Outpatient Care

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Psychiatry and the National Health Service

UNTIL WORLD WAR II British and American psychiatry followed approximately the same paths, but shortly after World War II their paths diverged. The major immediate postwar developments in British psychiatry were along the lines of social psychiatry, with particular reference to psychotic patients in hospitals. By contrast, in the United States the major developments were along the lines of psychodynamic psychiatry, with particular reference to ambulatory neurotic patients. As with most social phenomena, the causes of the divergence seem complex, and after a year in Edinburgh in some ways they seem more complex to me than they appeared before I left. I doubt, however, that there are enough differences between the patients in the two countries, or between the medical, psychiatric or cultural traditions, or even between the psychiatrists to account for the difference in the direction of development. Instead, if I had to single out any one cause that I consider the most important, I would vote for an economic cause—specifically, the National Health Service.

The National Health Service has influenced British psychiatry in a number of ways. In the first place, it stimulated mental hospital psychiatry by eliminating much of the cleavage and class distinction between private and public hospitals, and so in effect it upgraded the public mental hospital, at the same time making the superintendent's and consultants' positions professionally more attractive. Psychiatrists in Britain, for the first time, had the resources to carry out imaginative experiments in psychiatric hospital care.

On the other hand, the National Health Service has indirectly limited the development of outpatient psychiatry *per se* by maintaining the general practitioner rather than the specialist as the major purveyor of outpatient care. Except in emergencies, in Great Britain patients see specialists under the Na-

tional Health Service only on referral from their general practitioners. In psychiatry, as in other specialties, the traditional format of medical consultation is the rule. The specialist, on the general practitioner's request, evaluates the patient in the outpatient clinic, and then either admits him to the hospital under his care or returns him to the general practitioner with suggestions for continuing outpatient treatment. There are exceptions to this rule, particularly in London and in teaching hospitals, but in general there are no economic and few other incentives for the specialist to undertake outpatient treatment.

In both Great Britain and the United States, the physician's need for psychiatric assistance in the diagnosis and management of neurosis is not well served by the traditional medical consultation format. An increase in patient demand for a psychotherapeutic approach to neurosis can be anticipated in both countries, and will require modifications in current educational and consultation patterns.

The Psychiatric Consultation

The consultation system, here and abroad, is based on the assumption that the combined thinking of referring physician and consultant can contribute more to diagnosis and treatment than can the referring physician alone. Ideally, the two make and discuss their observations and conclusions together, although in outpatient consultations it is difficult to bring patient, physician and consultant together at the same time and place, so the physician's observations and the consultant's conclusions are usually communicated by letter. This procedure is generally satisfactory for most specialties, and for psychiatry when the patient under consideration is admitted to the hospital or otherwise continued under the psychiatrist's care. But judging from my experience both in this country and, during the last year, teaching British medical students, psychiatrists and general practitioners; functioning as a temporary National Health Service con-

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The observations in this paper are my own, but could not have been made without the support of the Commonwealth Fund and the cooperation of Professors G. M. Carstairs and Richard Scott of the University of Edinburgh.

sultant; and interviewing an unselected sample of general practitioners on their management of emotional problems, the traditional consultation procedure leaves something to be desired when applied to psychiatric patients who need not be hospitalized, and who will return to the general practitioner for care.

As a consultant I found, first, that no matter how thoroughly the general practitioner covered the patient's history in his written consultation request, he rarely communicated enough of the intangible background information about feelings and attitudes that I wanted. He was not holding back; there was simply too much information to be written down unless he knew specifically what I wanted, and I did not know exactly what I wanted until I had seen the patient.

For example, part way through an examination of a 19-year-old girl whose grandmother died just as the patient was entering adolescence, I realized that there had been more than the usual distance between mother and daughter at that time. I wondered if part of the distance was related to the mother's concern over her mother's death. It would have been helpful to me at that point if I could have asked the doctor if he could recall any details of the mother's grief reaction. Even if he had anticipated this question and provided some information, I would have wanted more than a factual account; I wanted to sense the nuances of feeling that are virtually impossible to communicate on paper.

The answer to this dilemma at first sight might seem obvious: make a special effort to include the general practitioner in the consultation, and have him available to fill in background material as it becomes relevant. But this answer has a serious drawback. I had asked this patient if she had discussed her feelings about her mother with her doctor. She had replied emphatically, "Oh, I couldn't do that—he *knows* my parents too well." She was not implying that she did not trust him, but that she would be too embarrassed to have him privy to her disturbing thoughts and still in social contact with her parents. Aside from this, there were other reasons for her to feel more free in expressing troublesome feelings to a stranger than to an old friend. Therefore, the presence of the old friend would have been an inhibiting factor in the consultation. Without him, I lacked his background knowledge of the family, but with him I would lose my compensatory advantage of anonymity.

Diagnosis and Treatment

Another alternative would encourage the psychiatrist to see the patient often enough for him to learn to know her and acquire the information he needs. This procedure would limit the number of

his consultations, but even with enough time there would be yet another complication. This complication stems from the lack of a clear-cut distinction between the *communication* of an emotional problem and its *treatment* as contrasted with, for example, the evident distinction between the diagnosis of an infection and its treatment. The basic technique of psychotherapy is the provision of an empathic milieu in which the patient can freely express and examine ordinarily unacceptable feelings. Since the same milieu is needed to diagnose the feelings, the farther the psychiatrist goes in diagnosis, the more involved the patient becomes in treatment. If, in his eagerness to refine the diagnosis, the psychiatrist permits the patient to become more than superficially involved in treatment with him, he faces yet another dilemma. If he then sends the patient back to his doctor, even by prearranged plan, she will feel rejected. The psychiatrist has become a confidante without the disadvantage of being a family friend, but having elicited her confidence he is now deserting her—she may even feel that he is deserting her *because* of what he has found out about her, leading her to become more convinced than ever that she is basically a bad and unlovable person. Reasonable assurance to the contrary has no effect—if she could be rational about her feelings she wouldn't be seeing a psychiatrist in the first place.

To avoid this dilemma, the psychiatrist might decide to go all the way, and to continue with treatment. This alternative presupposes time, interest, skill and experience. It is the customary alternative in the United States where there are more rewards for the psychiatrist who concentrates on outpatient care, and, at least in part for that reason, more interest in outpatient care, more emphasis on this aspect of training, and more psychiatrists. This alternative leaves out the referring physician, who too often does not even receive a letter in response to his referral, and it indirectly discourages him from developing an interest in the management of psychiatric problems.

Training in Outpatient Psychiatry

The British pattern of medical care, insofar as it encourages the psychiatrist to concentrate on hospital patients and to send ambulatory patients back to the referring physician for treatment, encourages the general practitioner's interest. It does not, however, provide much incentive for the psychiatrist to learn the technique of psychotherapy. In most specialties, outpatient treatment is essentially an extension of hospital treatment—although there is a *quantitative* difference, or difference in the severity of illness, between, for example, the cardiac patient in the hospital and the cardiac patient treated at home, the same pa-

tients are involved. But in psychiatry there is a *qualitative* difference—neurotic patients, for whom individual psychotherapy is best adapted, seldom enter the mental hospital at all; on the other hand, the follow-up care of psychotic patients who usually start treatment in the hospital is substantially different in technique from the outpatient treatment of neurotics.

Since his training and practice is concentrated on hospitalized psychotic patients, it is almost inevitable that the teaching by the British psychiatrist who joins a medical school faculty will concentrate on hospital patients. The British medical student, therefore, does not picture the psychiatrist as a natural source of advice in the management of neurotics, and the consultant psychiatrist is not stimulated to develop the interest and experience to contribute the kind of advice that would be most helpful. The student carries this concept into practice, referring psychotic patients to the psychiatrist, but working out his own patterns of care for neurotic patients. Only if these measures fail—"as a last resort," to quote one general practitioner—does he refer the neurotic to the psychiatrist. The consultant psychiatrist under these circumstances sees only the neurotic patients who are least amenable to treatment, a situation hardly likely to whet his interest in their care.

Economic incentives have helped to encourage a substantial proportion of American psychiatrists to depart from the traditional specialist's emphasis on hospital patients. Private practice makes it possible for a psychiatrist to concentrate on prolonged and intensive treatment of a small number of patients, treatment which regardless of its merits for the individual patient, is considered a rather expensive luxury by the public. The psychiatrist interested in psychotherapy usually finds intensive treatment more satisfying than briefer and more superficial treatment, even when the latter is based on the understanding derived from the more intensive approach. If they had practiced since the war under a system of medical care in which only brief psychotherapy was practical, and if they lacked the economic incentive to change, the majority of American psychiatrists might well have continued to concentrate on hospital patients.

In trying to point out and to account for differences between the direction of psychiatry's development in the two countries, I am not pleading the merits of one pattern over another. There is no convincing data proving that mankind is best served by psychiatrists concentrating primarily on psychotic patients or on neurotic patients. In the absence of evidence there is no purpose in the advocacy of change, provided that all parties concerned are satisfied with the status quo. In both countries, most psychiatrists seem content with their roles; British general practitioners

do not seem to want to relinquish their neurotic patients; American general practitioners are not clamoring for opportunities to carry out psychotherapy; and so far most patients are not objecting.

A Rising Demand for Outpatient Psychiatry

"So far," however, implies the possibility that the balance may be upset. There is already evident a demand for better hospital care in the United States, a demand encouraged at least in part by public education resulting in a reduction in the stigma of mental illness. I believe that there may be a parallel demand in the offing for better outpatient care in Great Britain. I found British university students who complained of emotional problems similar to corresponding patients in the United States in diagnosis, in response to treatment and, more pertinent to the present communication, in their expectations of the kind of treatment they considered appropriate. Spearheaded by the influential citizens of tomorrow who are university students today, the British can expect that a reasonably sophisticated, diagnosis-oriented psychotherapy—something a good deal more than simple reassurance, advice, or symptom oriented reconditioning—will be taken out of the super-luxury list and included in the range of treatments available to everyone. If the United States experience is any criterion, this demand, once established, is likely to spread to other segments of the population. Thus, American labor unions are now demanding provisions for psychotherapy in their contracts, and much as we as physicians like to think that "Doctor knows best," a cold-blooded look at history shows that patient demand is a potent determinant of medical supply.

If a substantial demand for psychotherapy develops in Great Britain, particularly without the economic brake of a system of private medical care, and if the extent of the demand in the United States substantially increases, the current facilities for their supply will soon be exhausted. Unless medicine and psychiatry decide to relinquish to other professions all efforts to cope with the increased demand, some relatively radical changes may be necessary in the physician's and psychiatrist's practice. Even now, psychologists, social workers, clergymen and others less qualified are engaged in various adaptations of psychotherapy, often without the opportunity for adequate contact with anyone medically trained.

Again, if no one seriously objected or was hurt by this train of events, there would be no need to be concerned. But the physician, knowing how frequently organic and neurotic illnesses simulate each other, is apprehensive about the lack of medical safeguards; the psychiatrist feels his responsibility; most non-medical therapists would welcome closer medical and psychiatric contacts; and the majority of patients still think of the physician as the logical source of help.

How might the psychiatrist and the physician help to meet the anticipated demand? The simplest way is to find a pharmacological short-cut, but, at least up to now, the drug approach to neurosis has disappointed patient and physician alike. More research into briefer methods of psychotherapy is obviously indicated, although as yet, the results have not been spectacular, and the problem of evaluation of the efficacy of psychotherapy is still unsolved. Even if otherwise acceptable, it is simply impractical for psychiatrists to assume full responsibility for all psychotherapy.

A partial solution in Great Britain may be found through changes in medical education. The increased time psychiatry is now obtaining in the medical curriculum may stimulate a demand from medical students for a kind of psychiatry that has more relevance to the majority of students, who still think of themselves as future general practitioners. This demand should naturally lead to an increase in outpatient clinic teaching and experience, with more emphasis on psychotherapeutic techniques and on the kind of diagnostic framework that makes these techniques applicable in a specific rather than a haphazard way. The medical student's search for understanding of the neurotic patient may put pressure on graduate training in psychiatry to provide an increased emphasis on psychodynamics and on the application of psychodynamics to the patient. By this route, psychiatrists, particularly those who teach medical students, would gradually become more concerned with neurotic outpatients, and general practitioners would be better prepared to undertake their treatment. This solution, however, may not be as easily applied to the American scene, where the number of students entering general practice has diminished dramatically, and may not even be applicable to the British scene, if the pattern of general practice changes.¹

The Community Consultation Format

A possible partial solution both to the problem of the standard outpatient consultation and to the problem of the increasing demand for outpatient psychiatric care may be found through extension of consultation in the community consultation format to general practitioners and other physicians. The psychiatrist of the future in both countries will, I suspect, devote a much greater part of his time to teaching and consulting with other physicians, as well as with psychologists, social workers, nurses, clergymen, parole officers, teachers in special schools, rehabilitation technicians and others in direct contact with emotionally disturbed individuals outside of psychiatric settings. Leadership in developing these patterns probably should be taken by university or other training centers, so that trainees can learn community consultation techniques at first hand from experi-

enced psychiatrists, and so that the psychiatrist of the future can be better prepared to fulfill the responsibilities the community will expect of him.

Psychiatric consultation in the community usually requires some modification in the traditional medical format. It often takes the form of a teaching seminar led by the psychiatrist and centering around a case history presented by one member of the group.² The particular points in question concerning the psychosocial diagnosis and the management of the case are discussed, with particular attention to the applicability of the material to other, similar cases. The potential advantages of the psychiatrist's actual contact with the patient, or client, are considered to be counterbalanced by the disadvantages, some of which have been outlined in earlier paragraphs in this article, although participation of the patient or client in a part of the consultation seminar is a possibility that deserves more exploration.

Regular seminars for general practitioners, concerned primarily with continuing psychotherapeutic treatment and instituted by Dr. Michael Balint, have long been a feature of the program of the Tavistock Clinic.³ Similar seminars have been conducted by psychiatrists in several American cities. Their function, however, is primarily to increase the practitioner's psychotherapeutic skills and not to provide an alternative to the conventional type of diagnostic consultation. In somewhat similar vein, a great number of courses for general practitioners have been developed, sponsored by the N.I.M.H. Since most of these courses are structured and programmed, even though they usually include illustrative case material drawn from general practice, they also do not provide an ongoing substitute for psychiatric consultation.

The potentialities of the community consultation diagnostic seminar format for consultation with general practitioners and other physicians have not yet been fully explored, although some experiments have been undertaken. My experience in leading fortnightly consultation seminars with a group of Edinburgh general practitioners over a period of several months encourages me to believe that they can provide a practical means of communication between the psychiatrist and other physicians in learning more about the diagnosis and management of neurotic patients. The seminars may well result in greater benefit to the majority of neurotic patients than the usual type of consultation can provide. Psychotic, suicidal, and certain other patients, however, continue to require actual examination for proper diagnosis and recommendation.

The goal of consultation seminars is not to make psychiatrists of all general practitioners, but to help them integrate a greater understanding of neurotic patients into their everyday treatment regimes. Al-

though as psychiatric instruction in medical school increases, the physician's background for using this type of consultation should improve, the medical student lacks enough continuity of contact with patients to recognize its significance until he starts in practice. I believe, therefore, that psychiatrists and other physicians in both Great Britain and the United States may find ongoing case seminars in the community consultation model a challenging opportunity for better meeting the needs and expectations of today's and tomorrow's patients.

Summary

In summary, I am putting forth in this paper the following opinions and suggestions:

(1) The National Health Service has encouraged the development of hospital psychiatry in Great Britain, but has indirectly discouraged the development of the psychiatrist's interest in neurosis, at least in part because of the pattern of care in which the general practitioner undertakes most outpatient treatment.

(2) In both Great Britain and the United States, the physician's need for psychiatric assistance in the diagnosis and management of neurosis is not well served by the traditional medical consultation format.

(3) A substantial increase in patient demand for a psychotherapeutic approach to neurosis can be anticipated in both countries, and will require modifications in current educational and consultation patterns if the medical profession expects to participate in its supply.

(4) The technique of the psychiatric diagnostic seminar, now used sparingly but effectively with community social agencies, could be more generally used and adapted to general practitioner consultation.

References

1. Aldrich, C. K.: Is today's general practitioner tomorrow's specialist? *The Lancet*, July 25, 1964, pp. 197-198.
2. Group for the Advancement of Psychiatry, Report No. 34. The Consultant Psychiatrist in a Family Service Agency, 1956.
3. Caplan, G.: *Concepts of Mental Health and Consultation*. United States Department of Health, Education and Welfare, 1959.
4. Balint, M.: *The Doctor, the Patient and the Illness*. New York, Int. Univ. Press, 1956.

MEDICAL EXAMINATION OF PILOTS

When is a pilot fit to fly? Some medical factors which must be considered by the occupational physician in deciding whether pilots of corporate aircraft can be expected to fly safely and efficiently are covered in a report just released by the Industrial Medical Association and the Aerospace Medical Association. The 9,500-word document, which is the work of a joint committee of the two Associations, points out that more than 30 per cent of all non-military airplanes in the United States are engaged in business aviation and that the crew members of these aircraft should have periodic health examinations equivalent to those given annually to executives.

Although the pilots of business aircraft must undergo periodic medical examinations prescribed by the Federal Aviation Agency, the report stresses that an F.A.A. medical certificate means only that a pilot has met the Agency's *minimum* standards and it is by no means a guarantee that the holder is free from medical disorders which may compromise his ability to fly at a later date.

In addition to obtaining interval histories and performing thorough physical examinations, it is recommended that the examining physician utilize special diagnostic procedures and consultations for the definitive investigation of any suggestive findings. Through such exhaustive medical evaluations he is protecting his firm's considerable investment in its flying personnel and at the same time is helping prevent early retirement due to medical disability, a tragic and costly matter for the individual pilot. The report covers the degree to which a pilot's ability to fly safely is affected by such things as disorders of the upper respiratory tract, gastrointestinal problems, peptic ulcer, endocrine disease, visual problems, psychiatric problems, etc., and concludes with the warning that while not all medical disorders compromise a pilot's ability to fly safely, medications used in the treatment of such disorders may produce effects which impair his efficiency and constitute a hazard to safety.

This guide, which is entitled "Medical Aspects of Business Aviation," is an invaluable tool for any physician who has responsibility for the health of pilots of business aircraft. Single copies may be obtained by sending requests accompanied by 25c in postage stamps to the Industrial Medical Association, 55 East Washington St., Chicago, Ill. 60602.

Mental Health Program

A Comprehensive Plan for Improved Mental Health Services for Kansas

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IN JULY, 1963, Congress authorized a federal grant which would aid all states in planning comprehensive mental health services. From this grant, Kansas received \$100,000 for a two-year planning project to be completed by June 30, 1965. Now in its second year, this program, conducted under the direction of the State Board of Social Welfare, is devoted to the preparation of a long-range (ten year) plan for the development of comprehensive mental health services throughout the state. The State Board of Social Welfare has delegated the responsibility for this comprehensive planning to the Division of Institutional Management and its staff in Community Mental Health Services, under the direction of H. G. Whittington, M.D. The intent of this planning endeavor is to develop, with the active help of lay citizens and many professional and special interest groups, a plan for comprehensive, continuous and easily available mental health services, and toward this end to develop a framework within which coordinated public, private, state and local services can work together.

Four Phase Plan

During the first two phases of a four-phase planning process, attention was focussed on gathering and sharing information. In these efforts, representatives of state and local governments, civic and professional organizations, and a wide variety of caregivers (including 138 physicians representing 32 counties, in which 67 per cent of the state's population resides) and opinion setters of many professions participated. Mail survey questionnaires on the adequacy of present services received response from over 420 professional caregivers in Kansas communities.

Urban area studies were conducted in Wichita, Topeka and Kansas City, to assess the mental health needs and resources. More than 800 persons participated. Six regional meetings held during the fall of 1963 involved nearly 600 persons. Over 240 persons served, or are presently serving, on study committees and advisory councils.

The first Kansas Congress on Mental Illness and Health (October 24, 1963) was co-sponsored by the Kansas Medical Society and drew 412 citizens to discussion sessions regarding mental health needs, re-

sources and plans. Work sessions were organized under both regional and topical committees. Six regional and three urban area committees met during the Congress to hear and discuss reports of the information and opinions gathered in the regional needs and resource meetings held earlier in the fall. Topical committees were organized under four general divisions: Education of the Physician, Hospital-Community Programs, Implementation of Mental Health

Recommendations springing from planning committees organized under a federal grant for state planning on comprehensive mental health services are reviewed. These reports emphasize need for education and information use of current facilities and personnel, plus development of new facilities and programs, as well as improved state financing.

Programs, and Special Problems of Hospital-Community Programs.

In Phase Three of the planning process, an attempt was made to develop specific program guidelines for the development of comprehensive mental health services. Committees were organized along three divisions. In the Division of Hospital-Community Programs, committees dealt primarily with programs which offer clinical services to mentally and emotionally ill individuals. Committees under the Division of Supporting Services studied activities which are necessary in order to make possible the clinical services to meet mental health needs of Kansas citizens. Committees in the Division of Special Service Needs studied specific services not covered in the first division committees, such as research and rehabilitative services.

Committee Recommendations

Planning has brought forth over 30 committee studies of various aspects of service available to Kansas citizens and has produced over 300 specific recommendations for the development of comprehensive mental health services.

Committees have recommended that 11 of the mental health centers in Kansas develop compre-

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hensive services for specified areas of the state. Since every area and the communities in it have their own special needs, local comprehensive mental health services will be unique to each area. In general, however, comprehensive mental health services will include inpatient and outpatient treatment, emergency hospitalization, community consultation, education, diagnosis, rehabilitation, pre-care and aftercare, training, and research and evaluation. Carrying out this recommendation, however, presents some problems.

Program Financing

At present the only real source of income available for community mental health services in Kansas is a county tax levy. Kansas county commissioners are allowed to levy a tax of up to one-half mill on each dollar of tangible assessed property valuation to support local mental health services. This tax levy, however, can raise only enough funds to provide for basic outpatient community mental health services. It is not adequate to establish or maintain *comprehensive* community mental health services.

Federal funds to assist selected communities in construction of comprehensive community mental health centers (as defined by federal regulation) are now available. In the foreseeable future, only 11 of the community mental health centers in Kansas can potentially develop the full spectrum of comprehensive services necessary to meet federal requirements. However, even these 11 mental health centers cannot now qualify to receive the construction funds because there is no way for them to match (with state or local money) the 53 per cent federal assistance which is offered. Neither is the local tax levy adequate to staff comprehensive community mental health services. The federal contribution, which could amount to \$2,000,000 over the next three years, cannot be fully utilized in Kansas without some mechanism to match the funds and to staff the centers so that comprehensive mental health services can be provided to our citizens. Therefore, planning committees have recommended:

(1) That state financial assistance be made available, and administered through a system of categorical grants, in order to assist local communities in providing for improved community mental health services in the areas of aftercare, services for the retarded, consultation to courts, and mental health education in the community;

(2) That the State Legislature appropriate, over the next three fiscal years, approximately \$2,000,000 to match the federal construction funds, to allow for the construction of three to six comprehensive community mental health centers in Kansas;

(3) That the State Legislature appropriate funds to assist those communities *not* qualifying for participation in the federal program to construct facilities, so

they can provide community outpatient mental health services.

Major Components of Plan

As the planning activities have unfolded, general consensus of the participants has established a number of ideas as essential to the planning process. They are:

(1) Mental and emotional illness, and related behavioral problems, by virtue of their high incidence, chronicity, and complexity, are public health and social problems of great importance.

(2) Any service on behalf of better community health entails two essential considerations:

a. The *application of existing knowledge* by expanded use and modification of present resources, and development of new resources as necessary.

b. The *development of new knowledge* through basic and applied research.

(3) *Concern about mental and emotional illness, and the maintenance and promotion of positive mental health, are not limited to any single group or vested interest*—psychiatry, state government, medicine, or any special group. Rather, they are public concerns affecting the total community, and demand the understanding, interest, and involvement on the part of many groups and individuals.

(4) *Many skills, requiring many different kinds of training and experience, are necessary* if the full spectrum of services—research, prevention, treatment, and rehabilitation—are to be adequately developed.

(5) If more effective and more extensive programs are to be developed, *inter-professional, inter-organizational, inter-agency, and inter-governmental collaboration is vital*. This collaboration involves the sharing of both authority and responsibility. It also entails definite fixation of accountability.

(6) *Existing public and private facilities must be utilized* as a base upon which to build and develop improved services. Our approach should be evolutionary rather than revolutionary. If we cripple or destroy existing services in our zeal to build new ones, we have scarcely achieved progress. The emphasis should be on increasing the usefulness of existing services and adding needed new services and programs.

(7) In order to be optimally effective, *services should be available* in every sense of the word.

a. Stigmatization should not prevent people from seeking help when they need it.

b. Location of the service should not be so remote that time and cost are major deterrents to seeking and obtaining assistance.

c. Financial requirements should not make the cost of service prohibitive.

d. The waiting list should not be so long that the illness or disability has become chronic before

proper diagnosis and treatment can be made available.

(8) In providing services, *the principles of continuity and comprehensiveness should be paramount.*

a. The best way to obtain continuity would be to have a full spectrum of services provided by one individual professional person, or one individual agency. With the complexity of our society and the rapid increase in the varieties of treatment modalities, this is seldom possible. Consequently, we must develop administrative means which will insure continuity of care, as the patient turns to different professional people and different agencies for parts of comprehensive treatment.

b. Service should be comprehensive, so that the full spectrum of known effective treatment resources are available to the individual: counseling, casework, individual and group psychotherapy, day hospital treatment, inpatient treatment in a general hospital, prolonged inpatient treatment in a state psychiatric hospital, aftercare supervision and supportive psychotherapy, rehabilitation services, medication, family counseling and therapy, etc.

(9) In developing plans, *two foci must constantly be maintained*: what is attainable now or in the near future; and what is ideal and should be set as a target for long-range development. We cannot let the acceptance of the attainable deter us from realistic and effective pursuit of the ideal. Neither should wishing for the ideal forestall accomplishment of the attainable.

(10) *The prevention of mental and emotional illness, through primary or secondary prevention activities, is of great relevance and has high priority in the comprehensive mental health program in Kansas.* While there is a great deal that is not yet known about the prevention of mental and emotional illness, there is a much larger body of sound scientific information available than has been put into use in Kansas or any other state. Our planning must include attention to the vital problems of prevention, instead of emphasizing only the treatment and rehabilitation of people once they have become ill. Many agencies—state and local, governmental and private—will become involved in these preventive activities. The tasks of planning must be to define what is possible with our present knowledge; to develop agreed-upon divisions of responsibility; to define the roles of the many interested agencies, and to fix accountability for successful performance of preventive activities upon specific agencies.

(11) *An educated and informed citizenry is basic to the development of adequate comprehensive mental health services in Kansas.* The aims of a public education program should be to improve the understanding of the citizens of Kansas about mental illness, so that they may more easily and more effec-

tively recognize signs of illness in themselves and others; to overcome the pattern of rejecting the mentally ill; to diminish the public fear of the mentally and emotionally ill; to overcome the sense of defeatism that stands in the way of developing effective treatment services for the mentally and emotionally ill, and to increase the public esteem for the mental health professionals, who often are seen as being deviant, strange, or somehow frightening.

(12) *Secondary prevention* through the detection of beginning signs of these illnesses and the provision of the earliest possible treatment, *should be readily available* through a variety of services:

a. Training through short courses and consultation can greatly increase the effectiveness of community caregivers such as clergymen, family physicians, teachers, probation officers, public health nurses, sheriffs, judges, public welfare workers, scout masters, or county farm agents, who are an important and integral part of the mental health team.

b. Mental health consultants, who are fully trained in one of the mental health professions, should be available for systematic consultation with community caregivers.

c. Postgraduate courses and ongoing consultation should be available to interested and qualified physicians since all physicians, and especially pediatricians, can offer a considerable amount of assistance to both adults and children who are experiencing emotional difficulties.

d. Immediate professional attention should be provided in the community for persons at the onset of acutely disturbed, socially disruptive, and sometimes personally destructive behavior. This should consist of the availability, in all Kansas hospitals, of an adequately staffed holding unit for the acute psychiatric patient. In many of the hospitals it should include a psychiatric ward for the treatment of 10 to 20 patients for periods of 30 to 90 days, under the supervision of a competent psychiatrist. In the major medical centers, treatment services for longer periods should be available.

e. Community mental health centers should be established in each of the 25 mental health protodistricts in Kansas, serving populations of 50,000 to 300,000. They should be equipped to provide the *basic services* of outpatient evaluation and treatment of adults and children with all types of mental and emotional disorders, including day and night hospital programs, and of ongoing consultation programs for other community caregivers, as outlined above.

f. To make the word "comprehensive" meaningful, the basic services should be augmented by specialized services to groups of troubled people often ignored or left to their own devices. There

should be diagnostic and treatment services for the mentally retarded, for alcoholics, and aftercare services for patients returning to the area from state hospitals, as well as specialized consultation and evaluation services to the district and juvenile courts in their area.

g. The state hospital services should be expanded to include increased inpatient treatment facilities for children, specialized treatment programs for alcoholics, and extra-mural programs to provide inservice training and consultation services to the mental health centers.

(13) In order to accomplish these objectives, more money will be necessary. *Financing should be obtained from multiple sources* for all the facilities, with the use of governmental funds along with private fees, voluntary contributions, and fees from medical insurance plans.

(14) *Development of new knowledge should be an integral part of a comprehensive program*, and research, both basic and applied, should be supported by all levels of government and by private resources within the state of Kansas. A long-term commitment to research should be made by the Kansas Legislature, and a percentage of each state budget for mental health services should be earmarked for research activities.

(15) The *prevention of mental disorders* may be furthered by programs dealing with special high-risk stresses facing many citizens, since it is well recognized that appropriate support in times of stress will often prevent or minimize personal disorganization and regression. Such programs might include these activities:

a. Prevention of maternal deprivation through such procedures as improved foster home care, homemaker services, rooming-in practices in hospitals, etc., will play an important role in the prevention of serious childhood personality disturbances.

b. New knowledge about child-rearing practices has great potential for improving the mental health of our future citizens, but this potential is not being realized in Kansas.

c. Prenatal care must be promptly available to all pregnant women, and particular attention should be given to the improvement of such care for lower socio-economic groups. By this means, a high prevalence of prenatal and perinatal injuries to the central nervous system, which may result in mental illness or mental retardation, can be effectively prevented.

d. Since some mental disorders have hereditary factors, their prevention might be accomplished by genetic counseling, so that prospective parents and prospective marriage partners may have information about inherited risks.

e. Making available birth control education and information, and birth control materials for individuals not able to afford them privately can also contribute to prevention of mental illness. Procedures of voluntary sterilization for both males and females should also be available.

(16) *Education and training at all levels* must be supported if continuing development in our comprehensive mental health program is expected. This should include academic programs for the training of clinicians, nonacademic training for the whole variety of clinic or hospital personnel, and inservice training for professional persons in public work.

(17) *The functions of program evaluation and long-range planning should become an ongoing activity of the Division of Institutional Management.* An assessment of population and economic trends, social trends, personnel availability, financial developments, changes in treatment philosophy and practice, the utilization of available new knowledge concerning prevention and treatment—all can be utilized in the continual evolution of a long-range plan for the construction of facilities, the offering of services, the training of new personnel, and the development of support. The needs of the individually mentally and emotionally ill, and of citizens not yet born, can be most effectively met only by the development of a strong and well staffed section in the Division of Institutional Management office to collect, analyze, and evaluate the wealth of information that is available at state and national levels. This will facilitate rational, intelligent planning rather than meeting a series of emergencies and making a series of compromises or expedient decisions which would, in all likelihood, have to be undone a few months or years later. This planning and evaluation section should be directly related to the Director of Institutions, and should not be a section of an operating subdivision of the Division of Institutional Management.

Seven documents have been prepared from the reports of committees within the planning project. These documents—"Medical Services and Mental Health," "Pilot Study: Mental Health Needs and Resources in Douglas County," "The Prevention of Disability in Mental Disorders," "Citizen Attitudes Towards Mental Health Services," "Mental Health Needs and Resources: A Report of Regional Citizen Surveys" and "Program Guidelines: Volumes I and II" have been widely distributed to key groups and opinion setters throughout the state.

The goal of the Fourth Phase is action. How far this phase can implement the planning done during the earlier phases will depend upon how much Kansas citizens are willing to pay to provide comprehensive mental health services.

The staff of the planning project sees a definite

need for private psychiatric services of all sorts, as well as locally supported and state supported services. As with other systems of medical care, as much of the service as possible should be offered by private practitioners. The role of government is to supplement, not to supplant, private enterprise.

The whole purpose of the planning and action is to build a program which will meet the needs of all citizens of Kansas and provide them with the kinds of mental health services they need when and where they need them.

The family doctor in the future should plan for an even greater role in the diagnosis and treatment of mental and emotional illness. As mental health cen-

ters* develop, they will serve as an additional resource for physicians in the diagnosis and treatment of their patients.

The staff of the planning project hopes that Kansas physicians will continue their active support of mental health services and will work effectively towards the achievement of comprehensive mental health services—prevention, treatment, and rehabilitation—for all Kansas citizens.

* Community mental health centers are currently located in the following Kansas towns: Atchison, El Dorado, Emporia, Fort Scott, Garden City, Hays, Hiawatha, Humboldt, Independence, Kansas City, Lawrence, Liberal, Manhattan, Newton, Ottawa, Overland Park, Pittsburg, Salina, Topeka, and Wichita (2).

AFTER A CORONARY

(The following report was received from the Kaw Valley Heart Association)

Twenty or so years ago most people believed that a heart attack generally meant retirement from life.

Today, with new knowledge about heart disease, this view no longer prevails. Complete recovery is common, and having recovered from an attack, most patients can look forward to the "good life," usually with only moderate changes in the way they lived before their coronary.

In fact, judging from the November and December issues of "Modern Concepts of Cardiovascular Disease," the coronary often gives the heart patient an excuse to lead the life he should perhaps have been living all along, one of healthful moderation.

A review for physicians on current treatment of post-heart attack patients, the issue is authored by Drs. Clarence E. de la Chapelle and Charles A. R. Connor of New York University School of Medicine in New York City. The discussion is completed in December number of this monthly professional bulletin published by the American Heart Association and available to physicians from the local Heart Association office, for Northeast Kansas, the Kaw Valley Heart Association, Kansas University Medical Center, Kansas City, Kansas; for Wichita and Sedgwick County, the Sedgwick County Heart Association, 2827 East Central, Wichita; for all other Kansas counties, Kansas Heart Association, 2941 Fremont, Topeka.

Reflecting the changes in outlook that have occurred, the article points out that nowadays approximately 80 per cent of patients who recover from an attack return to work and are encouraged by their physicians to do so. The majority of those able to work resume their former occupations, usually within three months.

To emphasize the new attitude, the authors note that now "it is even possible for a patient who has recovered from a documented myocardial infarct (heart attack) to obtain life insurance."

As clear-cut examples of complete recovery with return to normal living, the New York physicians cite President Lyndon B. Johnson and former President Dwight D. Eisenhower.

This "Modern Concepts" piece offers a comprehensive checklist for the physician, on advice to be given a patient who is "out of the woods" after his attack. Some of its recommendations follow:

Work Habits. Chances are if recovery has been uneventful, and it's a mild first attack, the patient can resume some business responsibilities after a short convalescence, even as short as a month. But a little caution is in order. Total working hours should be reduced. Special assignments involving long-distance trips should be deleted from the schedule. A full hour for lunch (if not more), followed by a half hour of complete physical relaxation and rest, preferably lying down, should become a lifelong habit. During this rest period, no distractions. That means no TV, no radio, no telephone calls. Apart from business responsibilities, too many civic and philanthropic claims on the individual's free time can become a source of stress and should be kept to a minimum.

Exercise. Walking should remain the main form of exercise for most. Golf, swimming, hunting and fishing are mainly suitable for those persons who regularly engaged in these activities prior to their heart attacks, Drs. de la Chapelle and Connor say. Strenuous, competitive games like soft ball, tennis, squash and even badminton should be avoided.

Setting-up exercises are O.K. as long as they are not strenuous, like push-ups or pull-ups. The Turkish bath, the steam room, the ice-cold needle spray or shower are best avoided by the post-coronary patient.

Driving. Piloting a car may work up a lot of tension, more than the driver may be aware of, especially in city traffic. It might be wise to let someone else in the family drive during the first few months.

Private Psychiatric Practice

Evaluation of Psychiatric Consultation in Private Practice—and Implications for Achieving Continuity of Psychiatric Care

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IN THE JANUARY, 1963, issue of THE JOURNAL OF THE KANSAS MEDICAL SOCIETY, the author described and discussed characteristics of a private practice of psychiatry in a Kansas community; and, a year later published an article in the JOURNAL reporting the outcome of private psychiatric treatment.

The present paper is a report on a limited follow-up study of 158 patients who were seen only for psychiatric consultation, or for brief psychiatric evaluation of five appointments or less. The general concern of the study was, "What happens to patients who are seen briefly by a psychiatrist, usually upon referral by a physician or some other caregiving person in the community? Do they receive continuing treatment as recommended? Is such brief contact with a psychiatrist of any usefulness? Can generalizations be made about continuity of care in our present system of psychiatric services?"

Method

A brief one-page questionnaire was sent to the 158 patients at their last known address. A cover letter explained the need to evaluate the outcome of private psychiatric services, and asked for their cooperation in returning the questionnaire. The form was identified by case number, so that the patient was aware that his identity would be known to the author. They were asked to provide the information if at all possible; but if they felt it were an unwarranted intrusion into their privacy, that they should feel no hesitation about not participating.

Results

Forty-four letters were returned because the former patient had moved and had left no forwarding address. This amounts to almost one fourth of the total sample, and represents an extremely high percentage of individuals who have not only moved, but have not left the usual instructions for forwarding mail. It suggests that a significant number of the individuals who were seen briefly by the psychiatrist in this particular group may have been interviewed at some particularly crucial juncture in their life course. Not only

was the sample quite nomadic, but there seems to have often been a disruption in the normal social continuity of the patient's life, so that his whereabouts are not known.

In addition, 73 of the questionnaires were not returned, although apparently delivered to the addressee.

An attempt to evaluate the results of brief psychiatric contact (five visits or less) in 158 patients by questionnaire sampling was made. Only 39 responses were available for study.

A conclusion is offered that financial incompetence is an important impediment to adequate psychiatric care. A suggestion for Governmental financing of psychiatric treatment is presented.

Forty-one individuals did return the questionnaire. Data were too fragmentary on two of them, however, for tabulation.

For the 39 *completed* questionnaires returned, the following results were obtained:

The family physician was the most frequently used resource following psychiatric consultation. Fourteen patients subsequently saw their physician about their emotional condition—ten of them for five appointments or less. Of the nine (of 14) who indicated the results, six felt that they were improved as a result of seeing their general physician. It was interesting to note that only two individuals reported that their physician had given them counseling or psychotherapy.

Nine of the 39 patients consulted a private psychiatrist after the initial consultation, and eight received service in a mental health center. All nine patients who saw a psychiatrist felt that they were improved as a result of the treatment, and seven of the eight who were served in a mental health center felt improved (one did not estimate outcome). Seven of the patients were seen for 50 hours or more; three did not indicate the duration of their treatment. Psychotherapy was the usual modality.

Five patients had sought psychiatric hospitalization subsequent to the initial consultation; of these, one

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was hospitalized at the time of the survey. Four of the patients believed that the hospital had benefitted them, and one felt that it had worsened his condition.

One individual had seen a medical specialist, two had consulted a minister, one an osteopath, and one was currently living in a Veterans' Administration domiciliary. Five had been hospitalized for medical reasons.

Seven of the 39 individuals had received no treatment since consultation. Some of the patients had received treatment from several sources.

There was an item on the questionnaire concerning the use of medication for psychiatric difficulties. Nineteen of the patients indicated that they had used psychiatric medication of some sort since the date of consultation, whereas only six were currently taking it.

Eight of the patients indicated that they were currently receiving some sort of treatment for emotional difficulties; two specified that they were receiving treatment at a mental health center, two that they were being treated by a private psychiatrist. One was being treated by a general practitioner, whereas three did not indicate the source of treatment. Types of treatment consisted of casework for one individual, psychoanalysis for one, psychotherapy for two, group psychotherapy for one, and general supportive physical care for one.

The respondents were asked whether, in retrospect, they felt that the initial psychiatric consultation had been helpful to them. Thirteen believed that it was definitely helpful. Eighteen indicated that it was slightly helpful, whereas the remainder (eight) were unsure or believed that it was of no use.

When asked if the charge for the consultation was excessive, ten respondents, or approximately 25 per cent, indicated that the cost was too high for them; several of those who indicated that the cost was reasonable, however, wrote marginal comments which indicated that in reality it was still not financially feasible for them.

The respondent was asked to indicate in his own words how he was feeling currently. Twelve of the individuals indicated they were feeling well at the time of the survey; 14 indicated that they were in generally good emotional health; six indicated that they would assess their condition as fair; three felt that they were doing poorly; and the rest did not specify.

Commentary

It is very difficult, still, to evaluate the usefulness of a program of brief psychiatric consultation. It is significant that at least one fourth of the patients who returned the questionnaire believed that the fee for private psychiatric service was beyond their means. Indeed, financial limitations were the reason for re-referral of most of the patients seen by the author for such abbreviated care.

The number of interviews with the psychiatrist at the point of initial contact seems to have some relationship to the frequency with which the patient followed up on recommendations for continuing treatment. Of 21 questionnaire respondents who were seen only once (and for whom further treatment was advised) by the author, only ten or 50 per cent followed recommendations. In contrast, of the nine patients who were seen for two to five contacts, seven or 80 per cent followed up and received further treatment.

Some questions are raised by this finding. Should a psychiatrist see a patient for only one hour, at the request of a general physician or community agency, if the likelihood of the patient's financial ability to continue in private treatment is slight? In this sample, only 50 per cent of the patients who were seen under these circumstances were able to follow recommendations that were made to them. Whether more than 50 per cent of these same individuals would have complied with recommendations for treatment if they had been referred directly by their private practitioner to a public psychiatric facility is, of course, unknown.

Part of the over-riding problem lies in the extent to which financial problems result in discontinuity of care for the individual patient. As far as psychiatric services are concerned, the individual who cannot afford the full cost of private treatment does not have, in the America of 1964, a free choice of physician. A system of compromises has been set up to insure at least minimally adequate psychiatric care (consisting of state-supported psychiatric hospitals and local community centers supported by a combination of local tax funds and patient fees based upon ability to pay) for all citizens. This system, in years past, has not been entirely satisfactory.

Perhaps we should re-examine the philosophical and ideational basis that underlies a system in which the citizen is "given" psychiatric service, but in the process does not have free choice of physician (or indeed may have no choice between treatment by a physician or a non-medical specialist). If really good psychiatric care is to be afforded all citizens, we might well ask ourselves whether a system of third party reimbursement for those unable to pay the full cost of treatment might be preferable to present arrangements. It would appear that government—or at least tax monies—will be needed to adequately provide psychiatric services for the foreseeable future. Is it preferable that government directly staff and run psychiatric facilities? Or should the individual patient be allowed to choose any practitioner or facility which is duly licensed in the state, and obtain needed services, with the government assuming responsibility for expenses incurred beyond the ability of the patient or his family to pay?

There are no easy solutions to such questions. Too

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Alcoholics Anonymous

A Neglected Adjunct to Hospital Treatment

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THE PROBLEM of alcoholism is one we encounter frequently in our hospital work as psychiatrists, and one which often eludes our best efforts at treatment. Laymen, clergymen, physicians, philosophers, faith healers, physiologists—all have attempted to deal with the problem in their own way. The variety of approaches suggests the lack of real success of any one. If we are honest with ourselves, we as psychiatrists must admit that we have no final answer to the problem but have gained through systematic study some understanding of the complex psychological make-up of the excessive drinker. At least we recognize that the person who drinks excessively—the “alcoholic,” if you will—fits no well-defined diagnostic category. With this in mind, the World Health Organization definition of the alcoholic would seem to be a useful one:¹ “Those excessive drinkers whose dependence upon alcohol has attained such a degree that it shows noticeable mental disturbance or an interference with their bodily and mental health, their interpersonal relations, and their smooth social and economic functioning; or show the prodromal signs of such developments.” All of us can think immediately of patients who, no matter what diagnostic category or psycho-dynamic background, would fit into such a definition.

In this presentation, I would like for us to reconsider one form of help for the alcoholic patient, Alcoholics Anonymous, which tends to be overlooked in our search for dynamic meanings, providing a patient with a therapeutic milieu, or dealing with the multitude of peripheral problems surrounding the problem drinker. Certainly we must try to understand, and help the patient to understand, the dynamic and unconscious factors involved in his drinking. But to stand idly by as the patient continues his pattern of self-destruction, awaiting some “magic moment” when he will no longer drink, is an unrealistic attitude. Few of us will take issue with the fact, for example, that very little progress can be made in psychotherapy with the patient who drinks excessively between his appointments or comes to his appointments in an intoxicated state.

Psychiatrists and Alcoholics Anonymous

In 1951, Dr. Harry M. Tiebout, a psychiatrist who was one of the original ardent supporters of AA and who has continued an active interest in the problem of alcoholism, wrote:² “One clinical fact supports the conclusion that alcoholism is a symptom which

The article presents the thesis that Alcoholics Anonymous can be made a valuable part of the dynamically-oriented treatment program of the hospitalized alcoholic patient. A brief review of the history, basic principles, and therapeutic aspects of the program is included, along with a suggested approach for referring hospitalized patients to Alcoholics Anonymous.

has become a disease. Experience repeatedly proves that no amount of probing and unraveling allows a return to normal drinking. Once the state of alcoholism has supervened, it seems to remove any later possibility of controlled drinking. This element survives as if it were a sensitized phenomenon, sure to be cast off sooner or later if drinking is attempted. The alcoholic always harbors the disease potential once that potential has come into being. He is forever susceptible. Further evidence for regarding alcoholism as an illness in and of itself may be seen in the experiences of Alcoholics Anonymous. Part of the success of that organization undoubtedly rests upon the simple assumption that alcoholism is the condition to be combated. Undeterred by technical scientific considerations and making no pretense of ferreting out causes, they tackle the alcoholism and succeed more often than they fail. Initially, the stress is entirely upon getting the individual to admit that he is an alcoholic. While it is true that they have learned that the way to maintain abstinence is through developing the capacity to live soberly, their earliest efforts are

* Presented at a professional staff meeting of the Menninger Hospital, January 31, 1964. Dr. Ross is staff psychiatrist at the C. F. Menninger Memorial Hospital, in Topeka.

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essentially limited to helping the alcoholic face the fact that he can no longer drink normally and that he can no longer safely take even one drink. This direct approach works and works sufficiently often to justify the belief that it is founded on one of the fundamental aspects of alcoholism." He goes on further to state, "One of the chief complaints registered by alcoholics in respect to psychiatrists is that the latter never talk about drinking and seem neither interested nor concerned about its concrete manifestations—sprees and hangovers, the dawning realization of a change in the drinking pattern, the various futile attempts to recapture the former capacity for control. The alcoholic intuitively feels that his drinking is the immediate seat of trouble, and so he waves away the findings of the psychiatrist who calls it 'merely' a symptom. Not until the disease concept is grasped, can the psychiatrist really empathize with the alcoholic's state of mind as a victim of the condition. Until he does, the psychiatrist will always seem a little remote and talking at cross purposes. The psychiatrist may consider the so-called compulsive element as the crystallization of the disease potential into actuality. With this viewpoint, the problem of alcoholism becomes not only much easier to understand but also much more responsive to therapeutic efforts. In advancing this concept of the nature of alcoholism, there is no thought of denying or belittling the importance of psychotherapy on the deepest possible level. Such therapy, however, must aim at helping the individual to learn to live with his limitation—namely, that he cannot drink normally."

Over the last year and a half, I have had occasion to refer several hospital patients to local Alcoholics Anonymous groups—often without any real conviction on my part that they would follow the recommendation or derive any real benefit if they did. Surprisingly enough, a majority of them have continued, and have maintained sobriety through crises in their personal lives which formerly would have set off a chain of events leading to more and more drinking. This has prompted me to look a little bit more closely at AA, what it has to offer, and more specifically, how we can utilize this "adjunct" to psychiatric treatment in an effective manner.

History of AA

Alcoholics Anonymous is a relatively new organization. The first group was organized in Akron, Ohio, in 1936, as a result of a discussion between a New York stockbroker, himself a chronic alcoholic, and an Akron physician.³ As expressed in their own statement of purpose,⁴ "Alcoholics Anonymous is a fellowship of men and women who share their experience, strength and hope with each other that they

may solve their common problem and help others to recover from alcoholism. The only requirement for membership is a desire to stop drinking. There are no dues or fees for AA membership; we are self-supporting through our own contributions. AA is not allied with any sect, denomination, politics, organization or institution; does not wish to engage in any controversy, neither endorses nor opposes any causes. Our primary purpose is to stay sober and help other alcoholics to achieve sobriety."

By 1955 AA had mushroomed into nearly 6,000 groups whose membership was far above 150,000 recovered alcoholics.³ Groups are to be found in each of the United States and all of the provinces of Canada, as well as many other parts of the world, including Asia. On the surface AA is a federation of autonomous but loosely organized groups of alcoholics who are learning to live without alcohol.⁵ The members believe that sobriety can be achieved and maintained by associating with one another, by sharing their common problems, by trying to help other alcoholics to recover and by following a program called "The Twelve Suggested Steps." The steps include the following:³ "(1) We admitted we were powerless over alcohol—that our lives had become unmanageable; (2) We came to believe that a power greater than ourselves could restore us to sanity; (3) We made a decision to turn our will and our lives over to the care of God *as we understood Him*; (4) We made a searching and fearless moral inventory of ourselves; (5) Admitted to God, to ourselves, and to another human being the exact nature of our wrongs; (6) We are entirely ready to have God remove all these defects in character; (7) Humbly ask Him to remove our shortcomings; (8) Made a list of all persons whom we have harmed and became willing to make amends to them all; (9) Made direct amends to such people wherever possible, except when to do so would injure them or others; (10) Continued to take personal inventory and when we were wrong promptly admitted it; (11) Sought through prayer and meditation to improve our conscious contact with God *as we understood Him*, praying only for knowledge of His will for us and the power to carry that out; (12) Having had a spiritual awakening as a result of these steps, we tried to carry this message to alcoholics, and to practice the principles in all our affairs." There are also the "Twelve Traditions," a series of rules governing the behavior of AA groups and of individuals or AA members in relation to outsiders.

Assets of AA

What are some of the specific aspects of the AA program, as it is observed in operation, which account

for its relative success? Briefly, these might be summarized as follows:⁵

—AA uses emergency treatment methods extensively and in a manner very similar to traditional emergency psychiatric care. The organization accepts the fact that alcoholics feel rejected if their needs are not met immediately. It provides emergency attention whenever it is called upon to do so. Being a large group, it can meet these needs in a way that would be impossible for individual psychiatrists. Whereas a person seeking psychiatric help would make an appointment to see a psychiatrist, the candidate for AA is seen immediately, *on demand*. AA believes that it is only common sense for the new member to call his sponsor whenever he is needed, regardless of the hour. In most large cities the candidate can attend an AA meeting at almost any hour of the day or night. This is in contrast to the usual group psychotherapy experience which occurs only at scheduled intervals. Many of the AA members have entered the organization as a result of a decision made when aid was sought in an emergency and when self-esteem was at a low ebb.

—The initial contact with AA is similar in principle to the initial interview of any psychiatric patient, but different in some of its mechanics. AA recognizes that a crisis exists and sends out two of its members immediately, before the alcoholic has had a chance to rebuild his defenses. The emergency team devotes its energies to establishing rapport, to providing emotional support, to helping the new client to define the nature and extent of the problem and to helping him decide on a course of action once the alternatives are clear to him. The means used are the personal stories of the AA callers, which include statements about their own ambivalences at the outset of membership and how these were resolved. The client is told enough to permit him to accept his callers as alcoholics whose problems were equivalent to his own at one time. He can identify himself with them. He is told enough about their alcoholic behavior that he can feel that his own actions are not particularly unique, reprehensible, or hopeless. He is given an opportunity to discuss his problems, doubts, and resistances in a matter-of-fact atmosphere. His callers agree with him that a problem exists. They avoid being drawn into his feelings about himself, his rationalizations, or his searchings for causes. The relevant question is, "What are you going to do about the problem now?" The two callers outline the way that AA operates in their experiences. They discuss the alternatives to AA. They make it clear that he is free to try the alternatives if he chooses, but they convey lack of optimism about all "will power," "control of drinking" and magic pill methods. The

alcoholic is left with information about how to establish contact with his callers if this should be his decision. The obvious fact that his callers have been sober and have become sober in AA serves as a powerful inducement to try the AA program.

—The sponsor-new member relationship is an important one. Usually the new members select as their sponsor one of the two members who made the emergency call and the sponsor serves to bridge the gap between the isolation of alcoholism and full membership in AA. Although this is the closest relationship AA has to offer, it is potentially the most conflict-engendering one. However, the organization structures the relationship to minimize difficulties. The sponsor undertakes this relationship voluntarily because he believes that the effort to help another alcoholic insures his own sobriety, whether or not the effort succeeds. He plays the role of the older, more experienced person who can provide emotional support, understanding and guidance. The new member has no obligation toward him and can terminate the relationship at will, or may choose another sponsor if he wishes. Gradually the sponsor shifts the alcoholic's problems to the group for their resolution or analysis.

—Group therapy in AA takes many forms. The major forms of group meetings are: (a) those open to the general public; (b) those open to select non-alcoholics; (c) closed meetings for members of AA only; (d) study group meetings. AA considers its group activities to be the major therapeutic instrument. The group acts as a kind of family which helps the "baby," as the new member is often called, to learn how to live a normal life, to form healthy relationships with others, and to arrive at a more realistic concept of himself.

—AA retains some aspects of the alcoholic's characteristic way of relating himself to others, his mode of life and thought processes, and rechannels these toward the new goal of sobriety. Group activities provide a consistent and integrated milieu. The members agree on the nature of the illness of alcoholism: alcoholism is thought to be a physiological "allergy" coupled with severe emotional problems. Anyone who disagrees is invited to go out and drink and prove the AA definition of alcoholism to be wrong. Although the use of the term "allergy" is not the conventional medical one, it implies a deep-seated difference of a physiologic or characterologic nature. This concept serves to alleviate guilt over the condition in which the alcoholic finds himself by explaining it in part as something over which he has no control. The problem then is to work through the self-deceptions which permit a person to trick himself into believing that he can drink in a normal fashion.

Some of the elements of his emotional problems are defined as dishonesty with himself and others, the conviction of omnipotence, impulsivity, guilt and shame, inability to enter into relationships which are mutually rewarding and obligating, making excessive demands, projecting blame to the environment and circumstances, manipulation of others, anxiety, depression, fear and perfectionism.

—In AA the alcoholic does not meet such barriers to recovery as his mistrust of non-drinkers and moderate drinkers, his feelings of inferiority in relation to them, his convictions that they cannot understand him, his inability to communicate with them and the very precarious nature of his relationships with them. In contrast, the nondrinkers in AA are alcoholics like himself, and by definition, understanding and equal. He has communicated only with alcoholics for years and this holds no terrors, especially when the setting, the terminology and the manner in which communications take place are those to which he was accustomed as an active alcoholic.

—Another barrier to recovery is the idealization of drinking after a period of sobriety. One of the ways in which AA combats this tendency is used as an example of the way in which this organization combats other "typically alcoholic" difficulties. When an alcoholic calls for help, two members make what is called a "twelfth step call." These men have been sober for a minimum of six months to a year, one of them usually much longer. Calling on a new candidate, they are able to see themselves as they were. To communicate effectively with him, they must relive their own feelings when they called for help and their own experiences in AA. In stressing to the new man that he has a choice about his way of life, they renew their own choice. Alcoholism is turned into an asset instead of remaining a source of shame and guilt. Without having been alcoholics, they could not be helping another alcoholic to recover. These calls are prescribed for the man who feels that his own sobriety is wavering.

Types of AA Groups

To turn to the question of available AA resources for referral of a patient, what might one look for in a community such as Topeka? Three general types of groups exist: a large downtown group, several smaller home groups, and a group within the Topeka State Hospital. Recently I visited an open meeting of one of the "home" groups which was attended by about ten members and their wives. This group meets twice-weekly at different members' homes for one and a half to two hours. Members were from all economic and social backgrounds and ranged in age from the early twenties to the sixties. There was an air of joviality as the members sat casually talking

before the meeting began. The words "drunk" and "booze" were often heard as some of the members light-heartedly discussed their past drinking problem or someone currently having difficulty. After all had arrived the meeting was called to order by a senior member, obviously a rather strong, outspoken, and respected leader. There was a short "meditation," followed by a statement of the purpose of AA and a recitation of the "Traditional Twelve Steps." The leader for the evening then began telling of his personal struggle to maintain sobriety by stating, "I am John; I am an alcoholic." He described in considerable detail his problem of alcoholism and the trials and tribulations of his accepting, rejecting, and finally re-accepting the AA program over a period of years. In succession then, each person seated around the room told his "story" and how he had found a means of maintaining sobriety through the AA program. Themes of resentment, anger, humbleness, self-inventory, surrender, being honest with oneself and changing one's whole life pattern—not just cessation of drinking—were freely voiced. Humorous anecdotes relating to difficulties with the spouse were frequent. Although mention was made of accepting God or a power greater than oneself—"as we each know Him"—there did not seem to be an over-emphasis upon religion in itself as necessary for acceptance for the AA program. Stress was placed on AA as a "simple program for complex people" and a need to live AA as a program designed to maintain sobriety for just "24 hours at a time." The meeting ended with the Lord's Prayer and there were informal discussions afterwards as the larger group broke naturally into smaller ones. Some of those present were obviously seeking an opportunity to discuss a current problem with another member. There were a number of wives present who spoke openly of the support they derived from Al-Anon the wives companion organization, and their own unsuccessful efforts at coping with their spouse's drinking problem before finding AA. Many of them emphasized how their own behavior in "pushing" or "nagging" at their husbands to stop drinking had proven uniformly unsuccessful in the past.

Use of AA Groups for Hospitalized Patients

Here is the general approach that I have found most valuable and successful—although not always—in helping my hospital patients get started in AA. With our procedure at the C. F. Menninger Memorial Hospital in doing an initial over-all psychiatric evaluation, it is rarely possible to refer a patient just at the moment he has "hit bottom" or just come off a "bender." We more typically get the patient after he has been sober for a time, often enforced by a period of hospitalization elsewhere, and after he has

reconstituted his defenses, particularly those of denial and rationalization. During our evaluation details of the patient's drinking problem, its severity, and its many ramifications can usually be clearly outlined.

Once the patient has gained some confidence in his relationship with me and support from the hospital structure, I ask him if he knows of AA, and what his understanding of it is. He usually responds by telling me his many misconceptions and rationalizations as to why AA would not be helpful. I rather carefully avoid any reference to the patient as an "alcoholic," but simply try to convey a recognition that drinking has become a problem for him and that he "might" get help with this through AA. I may mention to him that I know of others here who have been helped in AA, and I suggest that I could have a member of AA visit him in the hospital and discuss it further. Once the patient decides to talk with a member of AA, I arrange for an active member to meet with him informally at the hospital. This usually leads to his reluctantly attending a meeting.

Our patients are in a rather unique situation at the hospital in that most of them are a considerable distance from their homes. They may have considered attending AA many times before but have not because of the fantasied "stigma" and shame they might feel in attending AA in their home surroundings. Their being away from home allows a little more freedom for experimentation without their feeling that friends and associates would know. Also, I think we cannot underestimate the value of a recommendation for AA coming from a professional person, backed by the hospital's reputation, since many of our patients come with the expectation that our recommendation will provide the final answer. Another important factor for the hospitalized patient, too, is the implied confidence of the doctor in allowing him to leave the hospital setting and go out into the community where he is able to associate with others who are not "mental patients."

Most of the patients who begin attending AA

meetings react strongly with comments such as, "I was never as bad as all those people down there," or, "I never drank like that!" If the patient continues, however, he soon begins to tell of "bits" of someone else's story quite similar to his own, begins to develop some feeling of security within the group, and eventually reports that he is talking about his own drinking problem before the group. Although the patient may begin attending AA with only a passive acceptance or an openly stated rejection, most of these resistances fade as he realizes that the program has a potential for benefiting him and that the choice is his—that he is not forced to go by pressure from his family, hospital physician, or friends.

In conclusion, I would like to quote a statement in reference to alcoholism by Dr. Karl Menninger in a recent publication commemorating the 25th anniversary of Alcoholics Anonymous:⁶ "These are more than medical problems; they are also moral problems. They are problems which the founders of Alcoholics Anonymous and the thousands who have been inspired by them have learned to deal with in another way, a way which is not easy, a way which is not infallible, but a way which has and is working for many and which should have the blessing and help of more."

References

1. World Health Organization, Expert Committee on Mental Health (Alcoholism). Report on the second session. Oct., 1951. pp. 15-20.
2. Tiebout, Harry M.: The role of psychiatry in the field of alcoholism. With comment on the concept of alcoholism as symptom and disease. *Quart. J. of Studies on Alcohol*, 12:1, 1951. pp. 52-57.
3. *Alcoholics Anonymous*. New York, Alcoholics Anonymous Publishing, Inc., 1955.
4. *AA Today, A Special Publication Commemorating the 25th Anniversary of Alcoholics Anonymous*. New York, Cornwall Press, Inc., 1960.
5. Ripley, Herbert and Jackson, Joan: Therapeutic Factors in Alcoholics Anonymous. *The Am. J. of Psy.*, 116:44-50, July, 1959.
6. Menninger, Karl: An AA Appraisal. In *AA Today, A Special Publication Commemorating the 25th Anniversary of Alcoholics Anonymous*. New York, Cornwall Press, Inc., 1960, pp. 14-15.

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Some Problems of Adolescence

The Long and Frustrating Period of Growing Up

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WE LIVE IN AN ERA where we hear much about juvenile delinquency, the problems of early marriages, increasing illegitimacy, earlier and earlier motherhood. Student riots, like the ones in Korea and Panama, have changed the fate or foreign policy of whole countries. Our college facilities cannot be enlarged fast enough to accommodate the enormous numbers of teenagers wanting to enroll. One would, therefore, expect an intense contemporary interest in the problems of adolescence, reflected in many large research projects. Surprisingly, however, there has been comparatively little actual scientific interest in these problems. The Kansas Medical Society is, therefore, to be commended to have included discussions of so many of the health problems of adolescents in its program this year.

Adolescence is a period of great emotional turmoil in many contemporary cultures, and most certainly a very difficult developmental phase in our American culture. Furthermore, physical maturation now tends to occur at an earlier age than a generation ago. These children frequently are not emotionally mature enough and psychologically ready to cope with the inevitable increase in sexual and aggressive drives which accompany the maturation of their bodies. Nor are they ready to deal with the many readjustments necessary because of the growth spurt, the appearance of secondary sex characteristics, the other anatomical and physiological changes, as well as the changed expectations of themselves they and people around them have. These changes worry even older teenagers a great deal, sometimes to the point of requiring medical reassurance.

One consequence of this earlier puberty is an extension of the period during which teenagers are told they are not old enough to do many things, and yet are constantly reminded that they now are too old to act immaturely. Their frustration at conflicting demands has a greater opportunity to pile up. This problem is compounded by the current tendency to push children towards independence earlier and earlier. Even parents in as conservative an area as the midwest have been known to arrange for graduation dances, with dates and corsages, for their sixth grade youngsters. There are also beginning to be rumblings

about inter-scholastic competition, not only in baseball, but also football and basketball, in grade schools.

Preparing their children for life in our competitive society causes parents many sleepless nights. It is, therefore, most often not parental neglect or callousness which prompts parents to allow their teenagers too much independence too early. On the contrary, parents do so because they feel inadequate in prepar-

Due to earlier puberty and decreasing employment opportunities, the period of adolescence has become longer and more frustrating. Teenagers are left too much to their own devices and are not getting enough environmental support so that they can safely experiment through role playing in order to find out who and what they want to be, and who and what they really are. Emotional turmoil is normal for this age period. The "quiet and serene" teenager or the adolescents who try to apply one method to all problems over an extended period of time are in this way manifesting symptoms of pathological solutions of their adolescent dilemmas.

ing their teenagers for adult life and believe and hope that various "experts" to whom they entrust their children will be able to do a far better job of it. This is nowhere more apparent than in the area of giving the children adequate sex information before, during and after puberty. A surprising—and increasing—number of parents insist that sex education should occur through the church, the school, or the family physician. The sad part is that the teenagers find it hard under these circumstances to discuss adequately the questions they have, in front of a group, or alone with an adult they do not know too well, and at a pre-arranged rather than a spontaneously selected time. Far too often they learn about sexual matters from their friends, from books written more for lurid than for informative purposes, or through actual sex experimentation, which often has the chief purpose of relieving in some way the adolescent isolation and loneliness.

There are also economic changes for this group.

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They rarely possess an allowance which would enable them to live on the grand social scale they desire. Because of their vast numbers, and the apparent ease with which they can be influenced, teenagers are the target of mammoth advertising campaigns—for clothes, gadgets, cars, or perhaps, worse, vulgar movies and lurid magazines. So where does the money come from? The easier, nonskilled jobs which used to be available to teenagers are fast disappearing or are being taken over by trained adults. Thus, teenagers, particularly boys, are being pushed more and more to work at heavy labor or night jobs. There are laws intended to protect the teenagers and to make sure that their physical health does not become endangered, but these laws are seen as obstacles by many teenagers, who often manage to get away with a misrepresentation of their ages and obtain jobs which are hard on their still growing and vulnerable bodies.

In a December, 1961, issue of the *Saturday Evening Post*,¹ a Gallup poll of 3,000 United States teenagers, ages 14 to 22, revealed that 29 per cent of all high school senior boys had already been involved in a car accident while they were driving. Thirty-eight per cent of all male and 35 per cent of all female high school seniors had been involved in a car accident as passengers. Among college upper classmen, 51 per cent had had accidents while driving and 43 per cent had had accidents while they were passengers in an automobile. The only measures society has taken is to raise the insurance rates for this age group.

Since so many teenagers own or have access to cars, they have plenty of mobility and opportunity to arrange for any type of sexual experimentation. The resulting increasing number of venereal diseases, illegitimate pregnancies, illegal abortions and short-lived teenage shotgun marriages represent serious psychological problems, not only to the teenagers involved, and to their families, but also to society at large. The children born to these young couples often suffer from their illegitimacy or from growing up in a broken home, but even more from the fact that their adolescent parents are not at all ready for parenthood and really still need their own mothers and fathers. In this way our present day problems are multiplying into the next generation, when we do not even have enough manpower to deal adequately with the problems of today.

Like the weather, all these teenage patterns are talked about, but little concrete action is taken to remedy them. Unfortunately, this is only one of the many indications of the way in which present day adolescents have been abandoned, not only by society at large, but also in many ways, by their own parents. A vast number of adolescents, even with severe emotional problems, therefore, never get any help even if they are referred for psychiatric services. Any high school principal will tell you how difficult it is to get

parents of teenagers to come to the schools for conferences or parent-teacher meetings. The average parent of a teenager today tends to expect that the schools, the police, the other law enforcement agencies, the churches, the family doctors, psychologists, psychiatrists—and other parents—will take over the responsibility for his child. When a child gets in trouble, the public agencies and institutions often try to involve the parents, but the ball soon lands back in their lap. Yet the police, courts, churches, guidance clinics, and all the other public agencies, have found long ago that they cannot do an effective job if they do not have the active and energetic support of the children's parents. They cannot expect to control the youngsters, nor treat them, nor instill values in them if these values are not actively promoted and supported by the homes in the first place.

Whether the parents are really indifferent, are baffled or hoping for succor by a more powerful agent (as was suggested earlier), too often the results die tragically.

A few years ago, a 14-year-old girl was picked up on a main street by some airmen at two o'clock in the morning. They decided to go to another town and eventually allowed the girl to drive. Just before they reached their destination she drove into a culvert, and the four airmen in the car with her were killed. The girl was unhurt. At first charges were going to be pressed against her for manslaughter, but because she was a juvenile, she was turned over to the juvenile court. Before a hearing could be held there, the parents spirited themselves and their daughter out of the state.

Let us speculate some about this girl. If she were to be seen by a psychiatrist, chances are good that he would observe some rather disturbed emotional patterns in this girl. But was this the reason that she was on the highway at four o'clock in the morning and became one who caused the death of four other people? If not, should there have been more police so that she would have been picked up before she got in the car with those airmen? Suppose the police had taken her off the streets, what could the police do but turn the girl over to her parents, who obviously saw nothing wrong in the fact that she wasn't home yet (as they had not called the police) and who even after the accident could see no reason for letting the juvenile court work out some kind of help for her? Was this the failure of the church the family belonged to? Should the church have "reached" this girl and stopped her? Yet could the church do so when the parents' concept of right and wrong deviated so much from the general norm?

These questions, though unanswerable in this case, should indicate how very difficult it often is to assess the relative significance of any emotional problems present in adolescents, particularly in relation to behavior which brings about a referral to us as physi-

cians. It is, therefore, not surprising that child psychiatry has had a very difficult time defining the borderline between "normal" and pathological aspects of adolescence.

It is important to keep the cultural and socioeconomic setting in mind as we attempt to assess the nature and origin of the emotional difficulties existing in teenagers which we see as patients. Just as we want to establish the existence of any physical or neurological factors that may be the basis for or contribute to the difficulties, we must also, if at all possible, identify those cultural, socioeconomic, religious and familial factors which in some way enter into the symptomatic behavior. A boy who is the only son in a professional family, and who is referred because of uncontrollable behavioral problems, may merely be reacting to being pushed educationally beyond his intellectual capacity. If such is the case, easing the educational pressures and helping the parents not to take out their resultant disappointments on the boy, may be a far more effective solution to the behavior problems than would referring him for psychiatric treatment. He may never even need to see a psychiatrist.

The changed physical, economic and social conditions which the child encounters as he becomes an adolescent coincide with certain specific problems he must solve. He must learn to master his heightened aggressive and sexual drives. He must develop an identity. And he must find a comfortable balance between his earlier state of dependence and some theoretical state of complete independence.

Sexual Identity

With the advent of puberty and sexual maturation, children are faced with undeniable evidence of their sex, and have the task of fully accepting the sexual role which goes with this. However, if for various reasons which space does not permit us to go into here, the child was already confused about or had outright rejected his sexual role, puberty and the task of accepting the inevitable may be more difficult than usual. If a girl during her grade school years has been a tomboy and has been able to bat a baseball as well as the boys in the neighborhood, she can until puberty maintain the illusion that she really is not very different from boys. However, when the menarche occurs and secondary sex characteristics appear, the illusion is shattered—or can be maintained only by excessive denial which will clash increasingly with reality. One girl, for example, refused consistently to use sanitary napkins, but then had to hide her menstrual periods by changing underwear constantly, or conspicuously frequent trips to the bathroom.

Another attempted solution, seen particularly often in girls, is excessive dieting to the point of complete starvation. They hope that through the dieting they

will be able to suppress—or even get rid of—their secondary sex characteristics. Such a purpose is fairly far removed from reality, and the symptom of anorexia nervosa indeed often reflects a very serious emotional disturbance which requires immediate and vigorous treatment, usually in a hospital. In the immediate emergency situation, helping the child to survive physically is more urgent than dealing with the underlying emotional disorder, and tube or intravenous feedings may be necessary to emphasize to the child that she is not going to be allowed to kill herself.

Sexual maturation often brings about changes in the relationship between parents and children. Even though the child may still want to do so, for example, it is no longer appropriate for the child to come and sleep in bed with the parent of the opposite sex. The awareness of the child's sexual maturity also brings a new element to the expression of physical affection between parents and child, which may cause them to maintain greater distance from each other. The very fact that this increased distance does not come about because of mutual rejection often makes it a source of considerable conflict or confusion for the children who have been used for the free physical expression of parental affection during their earlier childhood years.

A surprising number of delinquent boys come from homes without a father where their closest relationship before puberty was with their devoted mother. Many times these boys showed no behavioral problems at all before adolescence. However, with the advent of puberty, their relationships with their mothers suddenly become very threatening, and the behavioral difficulties start. The delinquent behavior causes family fights, and a resultant distance between the adolescents and their mothers. If this distance still is not enough for comfort, the delinquent behavior will be continued until it eventually forces the authorities to remove these boys from their mothers and thus bring about the necessary greater distance. This "unfortunate event" has obvious advantages: the teenager can accomplish his secret goal without making his wishes apparent—instead he can appear as the innocent victim of the cruel authorities. Indeed the mothers frequently complain that "the law" took their children away from them!

Independence and Identity

Completely apart from this need for distance to decrease anxiety about heightened drives, puberty brings the expectation that the child will become more and more emancipated from his family, to seek gratification for his dependency needs outside the family, and eventually find someone outside the family who is free to love him sexually and otherwise. In addition the teenager must establish an indepen-

dent identity and prepare for and choose his vocational role in life. It is understandable that these expectations cause many anxieties, mixed feelings and conflicts in teenagers, particularly if they have been quite comfortable in the nest ("if dependence is so comfortable, why give it up?") or have not, in their parents and other significant adults, observed examples of a comfortable acceptance and enjoyment of their adult roles ("if independence is so painful, why try to achieve it?"). Furthermore, the road to adulthood is full of all kinds of hazards, of which the child becomes more and more aware as he gets older. Many choices have to be made which afterwards cannot be undone. The child would like to turn to his parents for advice, but this would perpetuate the previous dependency and thus endanger or delay emancipation. The child, therefore, attempts to set up barriers between himself and the parents, so that he cannot possibly turn to them. His peers will present him with a solution if he doesn't stumble upon it himself: the parents are old fogies, who don't know what is going on in the world of teenagers today, the parents are overly restrictive, it is the parents who don't want him to grow up, to have fun, and so on. And so it happens that a happy, fairly serene family life suddenly is converted into a constant battle ground, with only brief periods of armistice.

This war makes the teenager just as miserable as the parents, because growing up suddenly has become synonymous with a more or less angry destruction of the parents. It also prevents the teenager from allowing the parents to give him help and support in areas which would not threaten his independence. If the teenager cannot outgrow this type of solution, he may become the adult who cannot feel loved unless he is in a continuous struggle with others.

The period of adolescence is also the scene for labile moods and the teenage crush, when the teenager suddenly becomes intensely attached to a teacher, a coach, an adult relative, a currently popular movie star or entertainer, or some other adult. Everything which that person does is admired. The parents are constantly measured against this standard and found wanting. At the same time, the teenager tries to emulate the admired adult in dress, mannerisms, speech, behavior and values. These crushes invariably pass, and if the object of the crush is a mature adult who does not take advantage of the crush or use the teenager for his own needs, the total experience may be a very useful one for the teenager. He (or she) finds that it is safe to invest strong feelings in someone outside the family, and in the process learns a lot about himself and about relationships. The teenager may discover after one or more such crushes that a close relationship cannot exist if one totally wipes out one's own identity in the relationship, and that the closer the relationship to another person the more

sharply one must define one's own identity. The crushes afford an opportunity for safe experimentation with different identities and different expressions of the sexual role, so that the teenager can decide eventually who and what he is at heart.

To a lesser degree in early adolescence, but increasingly as time goes on, the peer group also affords a ground for experimentation and gradual self-definition. It becomes very important to dress, talk and act just like the other teenagers, and the values of the peer group may easily supersede the values of the individual teenagers and their families. A certain amount of experimentation is useful, maybe even crucial. Teenagers do not know how to trust their many new feelings yet. They often have to check with others whether their feelings are viable and are worth anything, before they can accept their own feelings. They also have to learn how to use their feelings, rather than just to be at the mercy of changing suddenly erupting moods. The peer group offers an opportunity for this type of experimentation and can be of much benefit—but only as long as the experimentation remains within certain safe limits and does not force the teenager to freeze into a certain role until he has matured enough to choose a role on the basis of his own convictions.

One 16-year-old, Mary, who was quite religious, found herself to be the only girl in her group of girl friends who was still a virgin. Her adherence to a moral code, which also had been the code of several other girls, caused them to feel guilty about their behavior. They, therefore, began to exert a merciless pressure on Mary to have a sexual experience. Faced with the threat of ostracism, Mary finally agreed to have a sexual experience with John, who was a member of the same clique and was under pressure from his boy friends for the same reason as Mary. Thus both these teenagers had an initial sex experience which was traumatic, because it did not only leave them feeling guilty, but cheap, since they had gone through the motions of a sexual experience merely to maintain their social status. Such incidents are not rare at all, and hopefully, will remind us that we as physicians must do more than just, after the damage is done, help the teenagers somehow come to terms with their guilt and the wounds to their self respect. We must also use our social prestige to help our communities understand that the teenage peer groups must not be allowed to go rampant like this and that they must be kept within certain consistent and reasonable limits.

The Sturm-und-Drang Period

It will be understood from this discussion that emotional turmoil and upheaval, as well as a considerable amount of experimentation with different roles and identities, must be considered essential parts of a

normal adolescent's experience in our culture. Anna Freud,² who is the main psychoanalytic proponent of this view, points out that adolescence by its very nature is an interruption of peaceful growth, and that "the upholding of a steady equilibrium during the adolescent process is in itself abnormal." She states the belief that each type of "abnormal" adolescent behavior represents a potentially useful way of regaining mental stability, which would be normal if it were integrated with other constructive psychological defenses and if it were used in moderation. As she said it so much better than anyone else, she should be quoted in full here: "It is normal for an adolescent to behave for a considerable length of time in an inconsistent and unpredictable manner; to fight his impulses and to accept them; to ward them off successfully and to be overrun by them; to love his parents and to hate them; to revolt against them and to be dependent; to be deeply ashamed to acknowledge his mother before others and, 'unexpectedly' desire heart-to-heart talks with her; to thrive on imitation of and identification with others while searching unceasingly for his own identity; to be more idealistic, artistic, generous and unselfish than he will ever be again, but also the opposite: self-centered, egoistic, calculating. Such fluctuations between extreme opposites would be deemed highly abnormal at any other time of life. At this time they may signify no more than that an adult structure of personality takes a long time to emerge, that the ego of the individual in question does not cease to experiment and is in no hurry to close down on possibilities. If the temporary solutions seem abnormal to the onlooker, they are less so, nevertheless, than the hasty decisions made in other cases for one-sided suppression, or revolt, or flight, or withdrawal, or regression, or asceticism, which are responsible for the truly pathological developments. . . ."

This view of adolescence has several important implications:

(1) It suggests that the serene, happy, compliant, "trouble free," adolescent may not be going through the normal psychological development required to reach mature adulthood. This may explain why some of these teenagers sometimes "suddenly" have serious breakdowns or show serious behavioral explosions (such as suddenly shooting their parents, etc.). It also must be noted that emotional immaturity does not preclude *vocational* success in adulthood, but usually does show up in the adjustments these people make to their marital and parental roles.

(2) It suggests that the pathological states in adolescence are those whereon particular defense or solution is applied to the total life stance of that particular adolescent over an unduly long period of time. Thus the teenagers who completely abandon their parents and family overnight, as it were, and seek all

their satisfactions elsewhere, as well as the teenagers who become consistently hateful towards their parents without letup, are trying to resolve their adolescent conflicts in a pathological way. This applies equally to the teenagers who withdraw into themselves or who become overly ascetic or who cannot allow themselves to make any concessions at any time.

(3) There is a danger that the adolescent becomes mired down in too much experimentation and becomes like the actor who has lived himself into so many roles on the stage that he more and more loses his own identity. Erikson³ calls this "role diffusion," and points out that such a diffusion may lead to outright psychotic episodes. It is by no means rare that adolescents who suffer from "role diffusion" systematically begin to engage in delinquent behavior in order to have at least some social identity. These teenagers subsequently are afraid to give up their delinquent behavior, because they feel that they then will have no identity whatsoever. As one boy put it: "If I quit being a hood, I am nothing—how will I know I even exist?" Some teenagers, particularly intelligent ones, sometimes assume the role of "angry young men and women." The anger becomes their whole identity. They can at any time give convincing reasons for why they are perfectly justified in being angry. It sometimes takes long, thorough psychiatric study before it can be established that the anger is a smoke screen designed to hide the underlying confusion, chaos and emptiness.

It has not been possible to discuss more than some of the highlights of the problems encountered in adolescence and their background. Even so, this brief overview may hopefully have stimulated the reader's interest in these problems, so that the present public disinterest may be replaced by plenty of intensive inquiry into these problems. There is still so much we do not know about adolescence, and still so much we do not quite understand. It is like Anne Frank⁴ wrote in her diary: "When I lie in bed at night and think over the many sins attributed to me, I get so confused by it all that I either laugh or cry: it depends on what sort of mood I'm in. Then I fall asleep with a stupid feeling of wishing to be different from what I am or from what I want to be; perhaps to behave differently from the way I want to behave, or do behave. Oh, heavens above, now I'm getting you in a muddle too."

References

1. Youth: The Cool Generation. Saturday Evening Post, Combined Issue, Dec. 23-30, 1961, pp. 63-80.
2. Freud, Anna: Adolescence. *Psychoanalytic Study of the Child*, 13:255-278, New York, Int. Universities Press, 1958.
3. Erikson, Erik: *Childhood and Society*. New York, W. W. Norton, 1950.
4. Frank, Anne: *The Diary of a Young Girl*. New York, Pocket Books, Inc., 1953, p. 50.

Drugs and Accidental Death

Some Possible Causes of So-called Unexplained Sudden Deaths

PETER FLEMING, M.D., Topeka*

OF THE MANY FATAL automobile accidents we read about, some seem more perplexing than others. In these cases the driver was not a teen-ager who had been drag-racing, or a very old man who was possibly senile, or someone discovered by autopsy to have consumed a large amount of alcohol, or someone who showed clear evidence of having had a heart attack. Instead, the facts may suggest that the driver fell asleep or was distracted by a stinging insect or even, intent upon disguised suicide, hit a bridge abutment on purpose.

There are occasional drownings in which the press account emphasizes the fact that the victim was a good swimmer, was swimming in a safe area, and yet he suddenly and inexplicably sank below the surface of the water without a struggle. Postmortem studies showed no heart disease or other obvious cause of death.

Other reports of instances of sudden death, such as those of well-known personalities, suggest that death had been preceded by too much drinking or was possibly suicide by sedative medication. Yet no suicide note is found, and there is no indication of heart difficulties. In most of these "accidental" deaths the outcome of any investigation is not published, or the follow-up news items speak of the death as being from natural or unknown causes.

Somewhat similar in circumstances was the death several years ago of a patient who had a drinking problem. This 50-year-old man would characteristically stop after several days of heavy drinking, call his doctor long distance and make an appointment to be seen three days later. He wanted this period of time not to drive the several hundred miles between his home and the doctor's office, but "to sober up and get to looking presentable." Invariably, his doctor would prescribe a small amount of a tranquilizing drug to carry him over this period.

One day the patient failed to arrive at the doctor's office for his appointment. When an investigation was made, the man was discovered dead on his kitchen floor. Careful inquiry revealed that the patient had taken one of the prescribed pills, a two-ounce drink of Scotch and one capsule of a sedative for

sleep, intending to retire early so that he could start on the trip to his doctor's office early the next day. The possibility of suicide was entertained and dismissed, as was that of an accidental overdose of medication. The autopsy revealed only visceral congestion. There was no evidence of poisoning by any chemical agent.

Unexplained Deaths

There have always been a certain number of these unexplained sudden deaths for which autopsy findings reveal no demonstrable cause.*⁵ However, from

Sudden death of humans has long been ascribed to different causes, some well established and known, others more remote and less well understood. It is to this latter group that the attention of physicians needs to be directed, particularly in terms of the toxic effects of some of our currently available drugs, including tranquilizers, alcohol, pesticides and the interaction of these in the same person.

this case and several similar ones, it appears that these deaths may indeed be the result of an accident. By chance a standard dose of a tranquilizer has been combined with one or more other chemicals (a word I'm using purposely rather than "medication"). In such combination the tranquilizer acted to increase the action of those chemicals which, beyond a certain indefinable point, caused complications and even death. Such drug action is referred to as potentiation.

Potentiation

Potentiation must be distinguished from a term with a similar meaning, "synergism." The latter term is applied to those instances in which the action of

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one drug is enhanced by another. Potentiation, however, refers to a double effect: *intensification of the activity* of one chemical agent by another, and, probably more important, the *prolongation of the effect* of the drug so potentiated.⁸ Potentiation may affect all properties, or only selected properties of a drug, e.g. the anticonvulsant action of barbiturates is not usually potentiated by tranquilizers.⁹

Potentiation is not a phenomenon limited to the tranquilizing drugs although my comments will deal primarily with these pharmaceuticals. Selye has demonstrated in some experiments (with effects more akin to immunity reactions yet probably applicable to potentiation problems) that the order in which the two chemical agents are presented produces different qualities of response. He has reminded us also that the time lag between the use of two different agents is of considerable importance.

Tranquilizers

The tranquilizing drugs are the miracle drugs of the 1950's, taken by more than 20,000,000 persons in the United States alone.⁸ They have been helpful in the treatment of many hitherto unresponsive illnesses. Certain of their side-effects are well known: agranulocytosis, drowsiness, extrapyramidal reactions, etc., but less well recognized are the potentiation possibilities of these drugs. As a group, the tranquilizers may potentiate certain anesthetics, barbiturates, narcotics, alcohol,⁹ antihistamines, sedatives and hypnotics,⁵ and perhaps other agents as well. Although the degree of the potentiation is widely variable, it may be so great that the properties of a drug affected may be quadrupled.⁹

Barracough and Sharpey-Schafer have pointed out that the circulatory reflex needs to be considered in episodes of hypotension. Whereas the intact circulatory reflex normally allows for virtually unaltered arterial blood pressure with changes in position or heart stroke output, these investigators have shown that certain conditions which produce neuritis (diabetes or alcoholism, for example) may interfere to some extent with the reflex dilatation or constriction of arteries and veins—the actual mechanism of maintaining the blood pressure. Such patients will suffer from syncope and other hypotensive phenomena. In such instances, therapeutic doses of drugs that act centrally rather than peripherally (such as therapeutic doses of barbiturates, small amounts of alcohol, etc.) may result in severe hypotensive crises.

These investigators believe that deaths of chronic alcoholics, which occurred after taking sleeping pills, were probably due to this. Even if tranquilizers are used in small amounts by heavy drinkers who also take just one sleeping capsule and a drugstore cold remedy, there exists the strong possibility potentiation will carry the sum of drugs beyond the margin of safety to produce fatal hypotension.

Alcohol

The alcoholic need not have ingested alcohol for some time. In periodic drinkers one can expect that a certain amount of neuritic inflammation will occur. During periods of abstinence there is a start towards recovery of the inflamed nerves, perhaps eventually to return to a normal state but there are likely to be long periods when such nerves are partially damaged, and hence vulnerable to the depressing effect of potentiating drugs.

In many instances alcoholism is given a prominent place in accounting for the sudden death of a person with a history of heavy drinking—excluding the unexpected but hard-to-demonstrate effects of potentiation of fatal combinations of drugs.

In 1960 Reinert and Hermann described their experiences with sudden, unexplained deaths of patients being treated with tranquilizers. They suggest, with reservations, that their cases may have had some spontaneously occurring depressions of the autonomic regulation since the one constant factor in their cases where death could not be explained completely was autonomic instability. This was especially manifested by hypotensive responses noticed during the course of earlier treatment. Interestingly enough, their work is now supported (three years later) by Barracough and Sharpey-Schafer.

I suspect that most physicians are quite alert to the fatal possibilities of certain potentiating drug combinations. From the earliest days, the pharmaceutical companies have mentioned this danger in the information sheets which they issue. Furthermore, such leading clinical investigators in the field as Ayd, Feldman, Kline and others, have repeatedly reminded us of these facts.

Antihistamines

I believe that we need to be aware of yet another area of possible difficulty; that is, certain non-prescription drugs are also subject to potentiation. If a patent medicine contains an antihistamine which the patient takes while also on tranquilizers, the possibility of increasing the effective strength and prolonging the activity of the antihistamine hardly suggests a great risk to health. But, what about the drowsiness or other possible side effects which antihistamines may have? These reactions, which may be negligible under ordinary circumstances, may have far-reaching consequences once potentiation takes place.

How should we respond to the anxious phone call from the nervous patient who reports she has been feeling lightheaded, and wonders if this portends a stroke? She has been responding well to one of the tranquilizers, and we learn that she did take her favorite patent medicine cold pills, but she insists that they have never bothered her before. In the end we may tend to think the whole episode another

manifestation of her neurotic adjustment. Such an estimate may be accurate, but we should not overlook the possibility of some complication of the potentiation of parts of the cold remedy by the tranquilizer. I suspect that the most frequently potentiated effect would be increased sedation producing sleepiness which would pass unnoticed. However, if the non-prescription antihistamine has hypotensive side effects, ordinarily insignificant, but which are now potentiated, other problems could develop.

Pesticides

Nor can the list of possible dangers be restricted to pharmaceuticals. The current widespread use of pesticides is both boon and bane. The late Rachel Carson's best seller, *The Silent Spring*, points out major disadvantages to their use. Still, as residents of a farming state, Kansans—as farmers, dairymen, and even housewives who want pest-free, pretty flowers around the house—use or are exposed to many of the newer pesticides. A recent editorial in the *Journal of the American Medical Association*⁶ warns particularly of the dangers of the organophosphorous pesticides to sprayers, especially unskilled ones. We are asked to remember this as a possibility when any illness for which the cause is not readily apparent occurs, not only among those who spray such pesticides, but even in those who live nearby, housewives who use such chemicals, and of course, children who may play with these poisons. Test kits that simply and rapidly detect the pathognomonic blood cholesteremia are available.

There is no reference to potentiation by tranquilizers in that particular editorial. However, Gaines, working on organophosphorous poisons with rats, found that rats would die from much smaller doses of the organophosphorous pesticide if they had been previously tranquilized. We cannot say that the same thing necessarily applies to human beings but we certainly don't know that it does not.⁷ Even in the absence of proof, the evidence of the effect on animals is sobering and suggestive. It is interesting to remember that chlorpromazine itself derives from an agricultural insecticide.⁴ The full story of the positive values of the tranquilizing drugs is not yet known but neither are all the problems associated with their use. They may potentiate all manner of chemical agents not yet suspected. Physicians and their patients should be alert to the possibility of unexpected potentiation, even though the identity of all agents that can be potentiated is not yet known. Perhaps potentiation can eventually be a means of conservation in the use of many chemical agents. Doubtless, in time, the list of drugs that can potentiate other drugs will be expanded.

Physicians are becoming more alert to the possible dangers resulting from potentiation, but it might be well to print a warning on the prescription labels as

a reminder to the patients. I believe a patient will remember any warning given when he first uses the prescription. However, special labeling would help to refresh his memory if he were to use that prescription a year later—or if his spouse should decide to use some of the medicine that helped her husband the previous winter.

The author wishes to express his appreciation to Mrs. Cecelia Koontz, Medical Records Librarian of the Menninger Foundation, for her help in collecting the data on which this article is based.

References

1. Abbott Laboratories: Important Drug Warning Letter, 1964.
2. Barraclough, M. A., Lond, M. B., and Sharpey-Schafer, E. P.: Hypotension from absent circulatory reflexes effects of alcohol, barbiturates, psychotherapeutic drugs, and other mechanism. *The Lancet*, Vol. 1, No. 7291, May 25, 1963.
3. Gaines, Thomas B.: Poisoning by organic phosphorous pesticides potentiated by phenothiazine derivatives. *Science*, Vol. 138, No. 3546, Dec. 14, 1962.
4. Koetschet, Pierre: Can it be said that chlorpromazine has specific properties? *Inter. Rec. of Med. and Gen. Prac. Clinics*, Vol. 168, No. 5, May, 1955.
5. Reinert, R. E. and Hermann, C. G.: Unexplained deaths during chlorpromazine therapy. *J. of Nervous and Mental Disorders*, Vol. 131, No. 5, Nov., 1960.
6. Safe Use of Pesticides—Editorial *JAMA*, Vol. 190, No. 5, Nov. 2, 1964.
7. Selye, Hans: *Calciphyllaxis*. University of Chicago Press, 1962.
8. Smith Kline and French Laboratories: *Ten years' experience with Thorazine, Reference Manual*: 5th Edition, 1954-1964.
9. Smith Kline and French Laboratories: *Prescribing information—Thorazine*, 1964.
10. Wilson, Ian C. and Reece, John C.: Simultaneous death in schizophrenic twins. *Arch. of Gen. Psych.*, Vol. 11, No. 4, Oct., 1964.

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C. P. C. ~

Asymptomatic Mass in the Right Abdomen

TODAY'S CASE is that of a 63-year-old, white woman who was originally seen in the medical clinic on September 27, 1961, with the complaint of a mass in the right side of her abdomen. She said that she had first noticed the mass about four months earlier, and that it had not changed in size since she discovered it. It caused her no difficulty other than some occasional, slight tenderness which was not severe. She said that she had a good appetite, denied any food intolerance, and gave no history of nausea or vomiting. Other than one questionable episode of melena in April, 1961, she had had no difficulty referable to her bowels; had had normal, regular bowel movements, and no history of acholic stools or pain with defecation. She came to the University of Kansas Medical Center seeking medical evaluation—not with any specific complaint but primarily because of concern at the presence of the mass in her abdomen.

On the initial visit the pulse was 80 and irregular, and the blood pressure was 200/100. Generally she was a well-developed, obese, white woman in no discomfort. The positive physical findings were limited to the cardiovascular system where occasional premature ventricular contractions were noted, and to the abdomen where there was an ill-defined mass approximately 5 cm. below the right costal margin. The examiner could not determine whether the mass was confluent with or separate from the liver margin. This area of the abdomen was slightly tender. Otherwise, the abdominal examination was normal.

The hemoglobin was 14.7 Gm. per cent. The urinalysis was negative except for 1-2 pus cells and red

cells per high power field. The two-hour postprandial blood sugar was 102 mg. per cent. The VDRL was not reactive. The blood urea nitrogen was 15 mg. per cent.

Subsequent medical clinic examinations record the mass to have been more distinct in outline, and it was described as being 5-6 cm. below the right costal margin, 6-8 cm. in diameter, firm, smooth, movable, and slightly tender. The mass moved slightly with the respiratory effort. No other masses or organs were palpated within the abdomen.

A single stool guaiac examination was obtained in the outpatient department and this was recorded as showing a "trace" of blood.

She was seen in consultation by the gynecology and urology services, with no positive impressions other than a third-degree cystocele and a second-degree descensus of the uterus. The patient was admitted to the surgery service on November 10, 1961.

There was no history of previous surgery. She stated that she had been hospitalized elsewhere in April, 1961, with a fever. She was told at that time that she had a urinary tract infection. There is no further information available concerning that hospitalization. She felt that she had always been in good health, and was active for her age. The family history and social history were not remarkable except that one brother possibly had cancer and one sister had hypertension.

The review of systems was essentially normal with the exception of occasional palpitations. She said that, in April, 1961, she weighed 230 pounds. She was recorded as weighing 210 pounds in May, 1961, and at the time of admission weighed 212 pounds.

Physical examination showed her temperature to be 99.4° F.; pulse, 72 and irregular; respirations, 20 and regular; blood pressure, 190/100. There was a

Edited by Jesse D. Rising, M.D. and Mahlon Delp, M.D., from recordings of the proceedings of the conference participated in by the departments of medicine, pediatrics, surgery, radiology, gynecology and obstetrics, and pathology of the University of Kansas Medical Center as well as by the third- and fourth-year classes of students.

cardiac arrhythmia, thought to be premature ventricular contractions. Examination of the abdomen showed the mass to be the same as reported in the clinic examination. The rectal and pelvic examinations again showed the cystocele and the descensus of the uterus. Proctoscopy to 23 cm. was entirely normal. The color and character of the feces were normal. Several Heberden's nodes were noted on the right hand. The remainder of the physical examination revealed no unusual findings.

The pH of the urine was 7.0; specific gravity, 1.020; albumin, trace; sugar, negative. On microscopic examination of the urine there were a few pus cells and bacteria per high power field. The white blood count was 5,990, and the differential showed 58 per cent neutrophils (55 per cent filamented), 39 lymphocytes, 1 eosinophil, 1 basophil, and 1 monocyte. The hemoglobin was 13.7 Gm. per cent with a hematocrit of 45 per cent. There were 1.2 per cent reticulocytes. The blood urea nitrogen was 14 mg. per cent; blood glucose, 95 mg. per cent. The prothrombin time was 78 per cent of normal; SGOT, 21 millimole units; amylase, 75 units; total serum bilirubin, 1.3 mg. per cent; direct bilirubin, 0.3 mg. per cent; alkaline phosphatase, 1.5 units; thymol turbidity, 2 units; cephalin flocculation, negative. The total serum protein was 5.92 Gm. per cent; serum albumin, 3.95 Gm. per cent; serum globulin, 1.95 Gm. per cent. The total cholesterol was 148 mg. per cent with 56 per cent esters. A stool guaiac examination was negative. The cervical smear showed no malignant cells.

The patient was taken to surgery on November 11, 1961, at which time an exploratory laparotomy was done. The patient had an uneventful postoperative course, and was discharged on the seventh postoperative day. She was seen in the outpatient clinic once following her discharge, and apparently was doing well.

Mr. William Keller (student):* Is there any other description of the size of the mass, and what is its relation to the umbilicus?

Dr. Thomas Hendren (resident in surgery): There is no other description. When I palpated the mass it was lying to the right and slightly above the umbilicus.

Mr. Hugh Hanna (student): Was there any tenderness on rectal examination?

Dr. Hendren: None whatsoever.

Mr. Richard Ohmart (student): Could you ever palpate the liver separate from the mass?

Dr. Hendren: I could not. One examiner in the

clinic, as you read in the protocol, did not know whether the mass was confluent with or part from the liver margin, so I assume he palpated the liver margin.

Mr. David McKnight (student): How tall was she?

Dr. Mahlon Delp (moderator): She was measured here, and was reported to be 61½ inches.

Mr. Keller: Was there any thrill on palpation of this mass?

Dr. Hendren: None.

Mr. Hanna: Was this mass apparently beneath the abdominal wall or situated within the abdominal wall?

Dr. Hendren: It was our impression that it was located deep to the abdominal wall.

Mr. Ohmart: Did the patient have anorexia or any other symptoms besides fever?

Dr. Hendren: Not that I know of. She may have had dysuria.

Mr. Ohmart: Did she have pain when she was in the hospital in April?

Dr. Hendren: Not that I know of. I cannot answer this specifically.

Mr. McKnight: Was there any history of epistaxis?

Dr. Hendren: Not to my knowledge. There was no history of melena except that one questionable episode in April.

Mr. Keeler: Was there diarrhea associated with this one questionable episode of melena in April?

Dr. Hendren: I cannot answer that.

Mr. Hanna: What was her temperature course in this hospital?

Dr. Hendren: She ran a normal temperature preoperatively, and her postoperative temperature was also normal.

Mr. Ohmart: What was her blood pressure on her first clinic admission postoperatively?

Dr. Hendren: I do not recall. It was not changed remarkably from the preoperative blood pressure.

Mr. Ohmart: Did she ever have any significant eosinophilia?

Dr. Hendren: No.

Mr. Keeler: Were tuberculin and histoplasmin skin tests done?

Dr. Hendren: No.

Mr. Hanna: Did the patient have a history of being on a diet during her April hospitalization?

Dr. Hendren: I do not know.

Mr. Hanna: Was there a history of being on diuretics?

Dr. Hendren: I do not know.

* Although a student at the time of the conference in March, 1962, he, like the others referred to as students, received the M.D. degree in June, 1962.

Mr. Hanna: Was there a history of iron intake?

Dr. Hendren: I do not know.

Mr. Ohmart: Did you hear a bruit over this mass?

Dr. Hendren: No.

Mr. Ohmart: Was a 5-hydroxyindoleacetic acid determination done?

Dr. Hendren: No.

Mr. McKnight: Was there a repeat hemoglobin?

Dr. Hendren: There were repeat levels postoperatively that were not significantly changed.

Mr. McKnight: Did she ever have a history of epistaxis?

Dr. Hendren: None to my knowledge.

Mr. Keeler: Why was this mass removed?

Dr. Hendren: That is for you to find out.

Mr. Hanna: Were feces examined for ova or parasites?

Dr. Hendren: No, I do not think so.

Mr. McKnight: Was the mass ever described as being solid or soft?

Dr. Hendren: It was described as being firm, and I think that that is a good description of it.

Mr. McKnight: Do we have any history of travel either in the southern United States or in other countries?

Dr. Hendren: Not to my knowledge.

Dr. Delp: Let us see the electrocardiograms.

Electrocardiograms

Mr. Hanna: This electrocardiogram was taken when the patient was admitted (*Figure 1*). It demonstrates a sinus rhythm of approximately 80 per min-

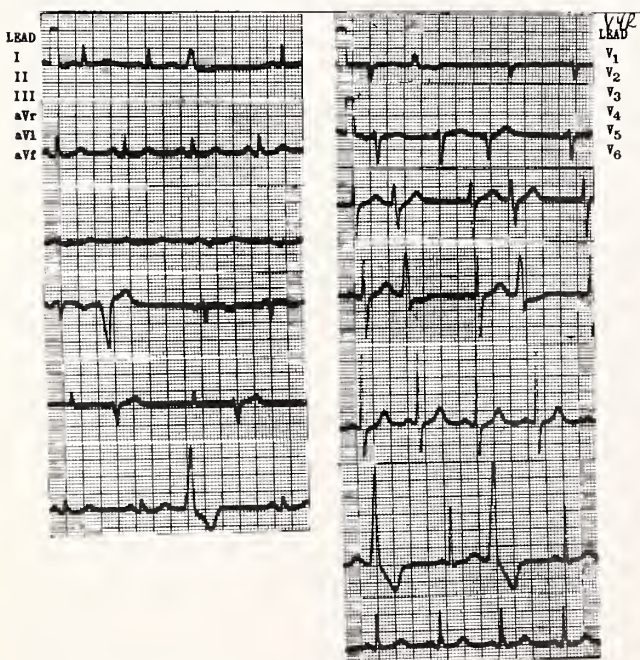


Figure 1. Admission electrocardiogram.

ute. The P waves appear to be normal, and the QRS complexes are normal except for a slurring of the R waves in lead 2, lead aVf and V6. This is probably a normal electrocardiogram. A long lead of aVf shows that she was having some premature ventricular contractions. It demonstrates a bigeminal rhythm on expiration and a rate of approximately 80 per minute. There is still a nonspecific slurring of the descent of the R waves. On inspiration she converts to a sinus rhythm.

Dr. Delp: Thank you Mr. Hanna. Mr. Ohmart will demonstrate the x-rays.

X-Rays

Mr. Ohmart: These x-rays were all taken preoperatively. The first film is an anterior-posterior view of the chest. It shows no bony abnormalities. The heart is normal in size. There might possibly be increased markings diffusely throughout the lungs, but this is probably due to the patient's obesity. The diaphragm is somewhat raised bilaterally, probably due to the obesity. The lateral of the chest adds essentially nothing except to show some arthritic changes in the cervical and the thoracic vertebrae. The gallbladder visualization shows a normally functioning gallbladder. The intravenous pyelogram, taken at 15 minutes, shows normally functioning kidneys (*Figure 2*). Of importance in this film is the fact that the left ureter comes down as it normally would be expected to just lateral to the spinous processes, but



Figure 2. Preoperative intravenous pyelogram.

as it enters the pelvis it runs a curved course entering the bladder a little more laterally than normal. Also on the x-ray films is the peritoneal fat line which is increased greatly over normal. The first upper gastrointestinal films show barium in the esophagus with some dilatation in the lower portion. The second film shows some retention of barium in that part of the esophagus, and I interpret it as a small hiatal hernia. There are no lines of an ulcer or any irregularity in this hernia to account for her previous episode of melena. The films of the stomach, pylorus and bulb are all essentially normal. I interpreted these films, especially the pyelograms, as showing a retroperitoneal mass in the right lower quadrant.

Dr. Delp: Dr. Youngstrom, do you have any additions to make to these comments?

Dr. Karl A. Youngstrom (radiologist): I may be wrong, but I see no definite pathology demonstrated in any of the films. The ureter that was described as being different on one side compared to the other is within the range of normal variation. It took a perfectly straight course, so you could hardly make a case for an impression on it. The esophagus, with barium in the lower end, represents a very nicely formed ampulla.

Dr. Delp: Mr. Keeler, may we have your discussion?

Mr. Keeler: In today's case we are faced with the problem of an obese, 63-year-old, white woman with an asymptomatic mass in her abdomen. This mass had probably been stationary in size for four months. It was poorly defined, slightly tender, and located about 5 cm. below the right costal margin. It probably moved slightly with respiration, and may or may not have been confluent with the liver. There was a questionable history of melena and urinary tract infection five months before admission. Finally, there was a probable 20-pound weight loss at that time. We will base our differential on the history of urinary tract symptoms followed by the appearance, one month later, of a right-sided abdominal mass that remained essentially unchanged until it was removed surgically. Masses in obese patients are difficult to predict, especially when the mass is of relatively small size.

The most common cause of ill-defined abdominal masses, fecal material, is dismissed because of the protracted course. Although we have been told that all women should be considered syphilitic or pregnant until proven otherwise, we will ignore these two diagnoses. Congenital lesions such as polycystic kidney are discarded because of this patient's age, negative x-ray, and six-month course. Neoplasms of the intestine can be ruled out on the lack of sustained weight loss, anemia, rectal bleeding, or abnormal

bowel habits. Neoplasms of other organs in this area (liver, kidney, gallbladder, and adrenals) can be discarded because there are no significant symptoms, laboratory values, or x-ray findings.

Parasitic infections, especially echinococcal and amebic abscesses in the liver, are excluded by the lack of exposure, lack of eosinophilia, lack of fever, and atypical course. A tuberculous mass is ruled out on the lack of pulmonary findings, negative skin test, and absence of systemic signs and symptoms. If this mass was confluent with the liver it could well have been an empyema or mucocele of the gallbladder. This diagnosis is unlikely without a history of biliary colic, jaundice, fatty food intolerance, dyspepsia, and positive x-ray signs.

Obscure renal lesions, which are popular in CPC's, are ruled out on lack of clinical signs, urinary or x-ray findings. Benign tumors of the bowel peritoneum and mesentery cannot be definitely discarded. Lipoma of the colon wall may present as an asymptomatic mass, but these are quite rare; they are usually noted in younger age groups and are, in most cases, associated with gastrointestinal complaints. Pedunculated subserosal uterine myomas, another CPC stumbling block, may become adherent to surrounding organs and gradually lose their uterine attachment. These parasitic myomata, or wandering fibroids, are unlikely because of the absence of other associated fibroids, the rarity of the condition, and because of inability to associate this diagnosis with the April episode.

This mass could be an abscess following perforation of a diverticulum or traumatic perforation of the bowel wall by foreign body, but there is no x-ray evidence of diverticula or perforation. The lack of fever, leucocytosis, and other systemic symptoms are also important in ruling out abscesses.

Because of lack of a more exotic diagnosis, we are forced to turn to the viscus most commonly involved in abdominal surgery, the abdominal tonsil, more commonly known as the appendix. This organ is removed from about 1.8 per cent of the total population of the U. S. yearly. We also understand that, in disguised form, it appears at least once yearly in this conference. Carcinoid tumor of the appendix is an attractive diagnosis, but this usually is a small tumor, often discovered incidently, and rarely producing symptoms. It is well known that appendicitis in elderly patients can present in many and widely varying ways. Fever and chills are commonly seen in patients of this age, and inflammation of the appendix can irritate the ureter mimicking the signs and symptoms of an acute urinary tract infection. We believe that this is the correct interpretation of that ill-defined episode last April. The development of the mass within

the next month could be one of two things, an abscess or mucocele. An abscess is ruled out on the same basis as the other abscesses. Mucoceles of the appendix are seen in 0.2 to 0.7 per cent of all removed appendices, with 75 per cent of them occurring in patients over 45 years old. They result from obstruction of the appendiceal lumen often as a result of inflammation and fibrosis, with dilatation of the distal appendix by mucus produced by the epithelial cells. They range in size from barely visible lesions to masses the size of a man's head. They may present as slowly growing or static, asymptomatic masses. A barium enema showing a filling defect in the cecum and a medial displacement of the cecum is supposedly indicative of this lesion. Treatment is simple surgical removal. This procedure is compatible with dismissal seven days following surgery.

In brief, we believe that this woman had an attack of acute appendicitis in April that resulted in stenosis of the lumen and the formation of a mucocele. This was successfully removed, and the case ends as ambiguously as it begins with the patient apparently doing well.

Dr. Delp: Thank you Mr. Keeler. Mr. McKnight, your diagnosis?

Mr. McKnight: Mucocele of the appendix.

Dr. Delp: Mr. Ohmart?

Mr. Ohmart: Mucocele of the appendix.

Dr. Delp: Mr. Hanna?

Mr. Hanna: The same.

Dr. Delp: Do you have a second diagnosis, Mr. McKnight?

Mr. McKnight: Abscess secondary to appendicitis.

Dr. Delp: Mr. Ohmart?

Mr. Ohmart: I think that would probably be my second diagnosis.

Dr. Delp: Any other possibilities now, McKnight?

Mr. McKnight: We cannot conclusively rule out a renal cyst.

Dr. Delp: Mr. Hanna?

Mr. Hanna: It could have been a fibroma of the bowel.

Dr. Delp: I have only a few questions I want to ask you. I want your explanation, Mr. McKnight, for the tarry stools the patient apparently had.

Mr. McKnight: The easiest one would be to assume that it was questionable and they were not present. Other reasons of tarry stools could be charcoal, iron, and bismuth.

Dr. Delp: What do you think of that fever she apparently had in April, Mr. McKnight?

Mr. McKnight: It was likely associated with what we figured was an attack of appendicitis.

Dr. Delp: At the time the patient came into the clinic on the first occasion, she had a white count of 16,860; the differential count was not remarkable,

but they reported reticulocytes of four per cent. What are your ideas on that, Ohmart?

Mr. Ohmart: The white count and the reticulocyte count could present as evidence of an abscess that was still an active process with mild bleeding, although I think this is doubtful.

Dr. Delp: Mr. Keeler?

Mr. Keeler: She could still have a hiatal hernia.

Dr. Delp: Do you think the white count of 16,000 has any significance?

Mr. Keeler: We do not know whether this was followed by an abnormally high count. This certainly would be indicative of persistence.

Dr. Delp: Do you think that this possibility of bleeding from a hiatal hernia is compatible with a hemoglobin which was 14.7 Gm. when the reticulocyte count was four per cent?

Mr. Keeler: This could be in association with renal cysts. Renal lesions are known to sometimes produce an increased red blood cell count or a polycythemia. I think this is very thin evidence to base a diagnosis of a renal cyst on, but it could be.

Dr. Delp: Does this concern you at all, Hanna?

Mr. Hanna: No, I cannot get too worried over it.

Dr. Delp: Mr. Keeler?

Mr. Keeler: I think the elevated white count is significant.

Dr. Delp: All right, McKnight, one final question: It is reported that this patient lost 20 pounds. Can you see that this 20 pounds had any bearing on this discussion?

Mr. McKnight: Well, we thought that perhaps when she lost 20 pounds, though this was a small fraction of her total weight, she might be more apt to find a small mass in her abdomen, and apparently she must have been sick or anorectic, or something, to lose that much weight.

Dr. Delp: Mr. Ohmart?

Mr. Ohmart: Classically, weight loss and rectal bleeding are two symptoms of bowel malignancy, but her history of bleeding is vague, and her weight loss was certainly not sustained. In fact, she gained at least two pounds back. I do not feel that this is too contributory.

Dr. Delp: Mr. Hanna?

Mr. Hanna: She had a fever when she was admitted to the hospital in April, and probably she was sick at that time. When people become sick they become somewhat anorectic.

Dr. Delp: All right, thank you. I think your discussion was good. I will call on Dr. Brown for his comments.

Dr. Robert W. Brown (internist): I might say that the reticulocyte count of four per cent, the slight drop in hemoglobin, coupled with the idea of having the intra-abdominal abscess, would be compatible with a moderately mild hemolytic anemia and with-

out sufficient severity to get the bilirubin particularly elevated. It could be quite easily compensated for by bone marrow. Looking around for other things, she was hypertensive, and she had one slightly elevated fasting blood sugar; one could go way out and diagnose pheochromocytoma and many other things, but these are not as well substantiated as the evidence we have for an abscess or a mucocele. Whatever it was, apparently it was very well localized because it was easily resected, and so I would have to agree with the students.

Dr. Delp: Dr. Allen?

Dr. Max S. Allen (internist): There are other lesions that occasionally present as an asymptomatic or relatively asymptomatic mass in the abdomen that I have encountered: One is a lymphoma, particularly the giant-cell, follicular lymphoma. We have encountered two patients in whom such a tumor was discovered on routine physical examination. This seems to be in an odd position for that sort of a thing, but I simply mention it because I do not have any better suggestions.

Dr. Delp: Dr. Schloerb?

Dr. Paul R. Schloerb (surgeon): It is encouraging to be reminded that not all the troubles in the world are caused by hormones and electrolytes. I would remind that, in a 63-year-old woman who has an abdominal mass as is here described and with the presence of melena, the possibility of a carcinoma of the large bowel is a very real one.

Dr. Delp: Dr. Miller, the preoperative diagnosis was carcinoma of the colon. Would you tell us your impressions at the time you saw the patient?

Dr. Don R. Miller (surgeon): I saw this patient before operation, and the diagnosis was not as clear-cut at that time as it is now. I think we could pretty much rule out retroperitoneal lesions and abdominal wall lesions because the tumor was definitely movable. It moved with respiration, and I felt sure that it was separate from the liver. So this made the lesion an intra-abdominal one. Ordinarily, lesions involving the gastrointestinal tract will cause symptoms, and this was an asymptomatic mass. I think we can exclude this from being in the lumen of the bowel, not producing any symptoms of pain or those of intestinal obstruction. When one considers the extrinsic bowel lesions, I think many of these have been covered by the students today. They are all relatively rare lesions, benign tumors of the mesentery and the omentum being possibilities. From the location of the mass, one has to consider the most likely possibility in the particular patient, and this would be a carcinoma of the ascending colon or the cecal area. This was the resident's preoperative diagnosis. This would tend to have been ruled out by the x-ray findings not showing an intrinsic lesion. I thought this was a benign lesion, probably a mesenteric cyst.

Dr. Delp: Thank you, Dr. Miller.

Dr. Delp: Dr. Boley, will you now tell us what you found.

Pathology Report

Dr. James O. Boley (pathologist): The mass which was palpated clinically was a cystic structure 15 cm. long and 7 cm. in greatest diameter, weighed 450 grams, and had a narrow tubular structure at the area where it was removed from the cecum (*Figure 3*). The surface was smooth and glistening. The contents were mucinous in the center, whereas that near the lining was yellowish-grey and cheesy. The distal dilated mucinous-filled segment did not communicate with the proximal non-dilated segment.

Microscopically, small nests and strands of columnar cells were seen extending into the outer zone of

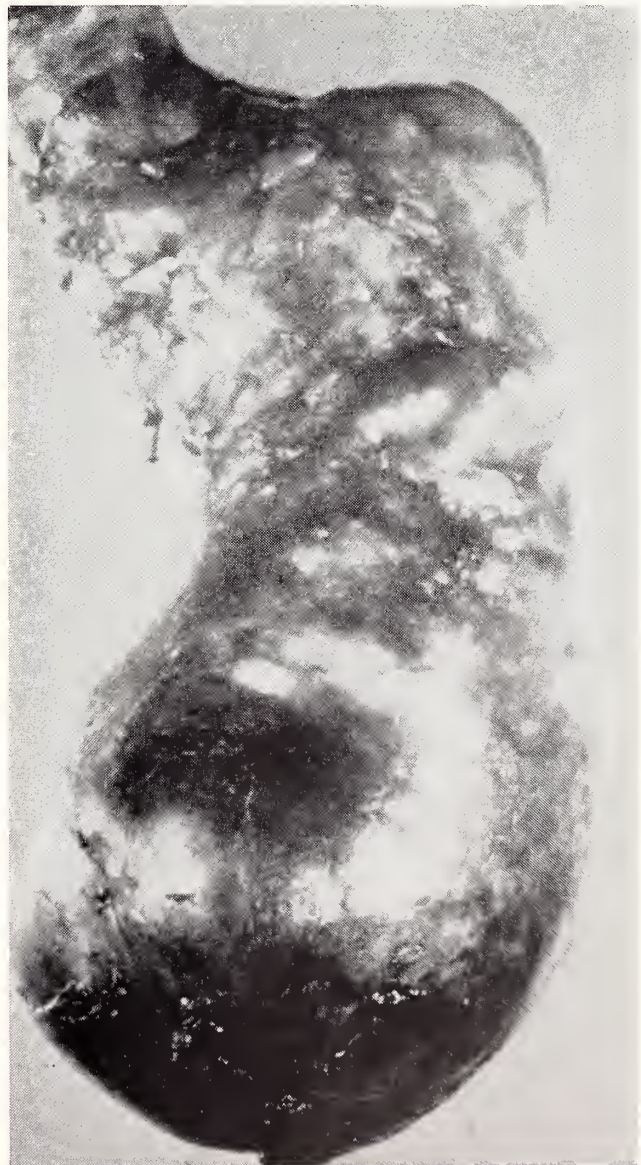


Figure 3. Mucocoele of appendix approximately normal size.

the mucinous contents (*Figure 4*). Along the fibromuscular wall the cells stain more deeply and pile up along the surface suggestive of a low-grade malignancy.

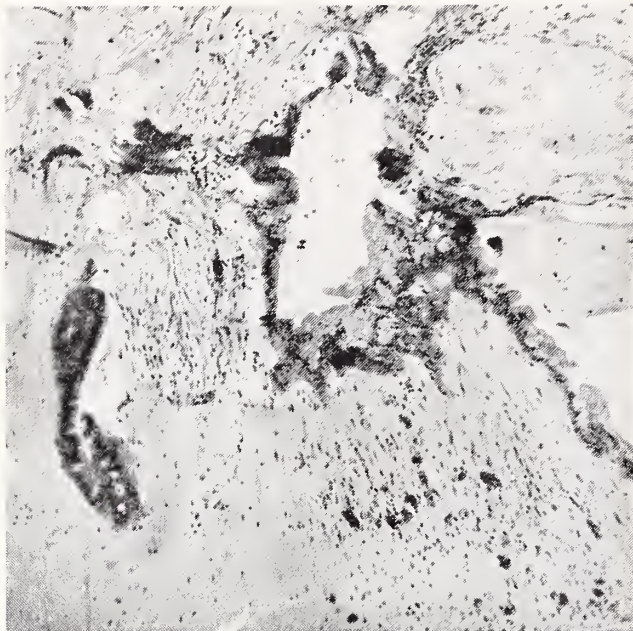


Figure 4. Papillary strands of columnar epithelium in periphery of mucinous contents of appendix, H & E $\times 35$.

nancy (*Figure 5*). Although invasion of the appendiceal wall could not be demonstrated, I consider this indicative of a mucocoele of low-grade malignancy.

Mucocoeles were considered benign and malignant by Woodruff and McDonald. Benign mucocoeles usually are small, occasionally quite large, and are lined by low cuboidal epithelium, resulting from pressure atrophy due to obstruction of the proximal lumen. This lesion is most often an incidental finding and associated with scarring of the appendix. I have seen appendices with two small mucocoeles which were considered to have followed a previous acute appendicitis. Malignant variants of mucocoeles have a hypersecretory lining, quite often showing papillary folds or projections. The columnar cells are tall, and have elongated hyperchromatic nuclei that extend far up in cytoplasm of the cell. One manifestation of their neoplastic character is their ability to continue growth when released into the abdominal cavity forming pseudomyxoma peritonei. In other areas the lining cells show less differentiation, may pile up to form masses, and the nuclei are more hyperchromatic and variable in size and shape. Lesions of this latter pattern have been found to be more invasive. Rupture of these are reported as forming pseudomyxoma peritonei.

A review of 68 cases of adenocarcinoma reported by Sierach and Tesluk revealed only 11 cases alive. The follow-up varied from two to 14 years. These are truly more malignant than the case under considera-

tion. Two mucocoeles with invasion of the wall have been seen in the surgical pathology laboratory at the University of Kansas Medical Center over the past 12 years; only one is living.

In summary, this case represents a mucocoele of low-grade malignancy; no invasion was demonstrated.

Dr. Delp: Any questions for Dr. Boley? Now, I think in response to Mr. Keeler's rather pertinent question as to why this lady was operated on: First of all, she came here requesting that she be separated from her abdominal mass. And, secondly, she was operated on because this was the only way a definitive diagnosis could be made. Now I wonder if other people might have some comments as to why the operation should have been done. Are there any other thoughts about this, Dr. Miller? I am particularly thinking about the case we presented several months ago to which Dr. Boley has already referred.

Dr. Miller: I think you mentioned the main reason the operation was done. There was a mass of which



Figure 5. Hyperplastic lining of appendix of low-grade malignancy. H & E $\times 35$.

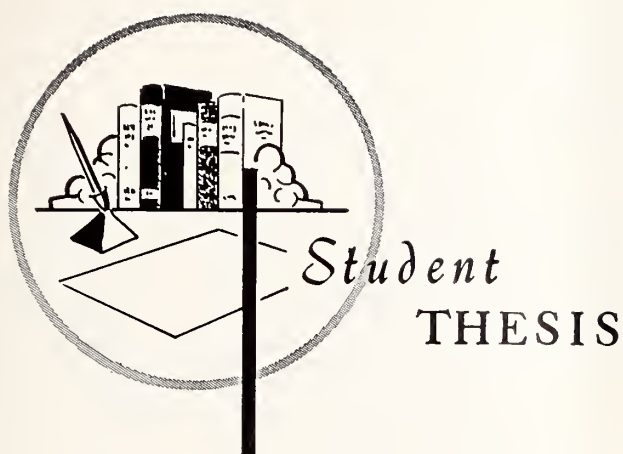
we did not have a diagnosis. Furthermore, if this had been allowed to go on for an extended period of time a rupture might have occurred.

Primary Diagnoses

Mucocoele of the appendix.

References

- R. Woodruff and J. R. McDonald: Benign and Malignant Cystic Tumors of the Appendix. *Surg. Gyn. and Obst.* 71:750-755, 1940.
- J. C. Sierach and H. Tesluk: Primary Adenocarcinoma of the Vermiform Appendix. *Cancer* 9:997-1011, 1956.



Early Diagnosis of Diabetes Mellitus

BILLY F. KAY, M.D., *Kansas City, Missouri**

THE EARLY DIAGNOSIS of diabetes mellitus has been the subject of increasing research in recent years. There are several indications for seeking better and earlier methods of diagnosis of this hereditary defect. By earlier recognition of the diabetic tendency, and by institution of therapeutic methods proven beneficial in the latent chemical diabetic, the onset of chemical diabetes may be forestalled. Only by recognition of the diabetic tendency at a stage before islet cell function is damaged, can better methods of control be evaluated and a search for methods of prevention instituted.

This disease process has been arbitrarily divided into three stages, overt chemical diabetes, latent chemical diabetes, and prediabetes. Overt chemical diabetes is characterized by elevated fasting blood glucose levels. Latent chemical diabetes represents the period during which the fasting blood glucose is normal, but the disease may be diagnosed by presently available laboratory tests. The prediabetic stage represents the period in which the genetically predisposed individual still has no demonstrable defect in carbohydrate metabolism by presently available tests.

Indication of Existence of Diabetic State

At the present time, the earliest indication of the existence of the diabetic state (prediabetes) is ob-

tained from the patient's history. An individual whose parents are both diabetic, has nearly a 100 per cent chance of developing diabetes. The presence of the disease in one parent, grandparents, or more distant relatives is of decreasing significance, as would be expected on the basis of the hereditary etiology. The classical finding of a mother who has given birth to a large baby (greater than nine pounds) gives the earliest indication of the diabetic state. Wilkerson estimated the expected percentage of babies larger than nine pounds in the general population to be less than two per cent, while the incidence of similar births in prediabetic mothers approached 20 per cent. Fetal mortality is also increased in the diabetic and prediabetic mothers. Moss and Mulholland found a fetal mortality rate of 54.7 per cent in the overt diabetic mother and 27.4 per cent in the prediabetic mother. The fetal mortality rate in the population at large is 12 per cent. The occurrence of a large fetus and abortions may precede the onset of chemical diabetes in the mother by 15 to 25 years.

Allen considered prediabetes to be a clinical syndrome with a characteristic history and presented cases of such patients. He suggested that the person predestined to develop diabetes had an altered insulin system 10 to 20 years before the onset of chemical diabetes. When the defective system is challenged by stress, *i.e.*, infections, pregnancy, etc., the first alteration is an inadequate secretion of insulin. Elevation of blood sugar is inadequate for diagnosis of diabetes, but it stimulates the beta cells and insulin secretion is prolonged. The prolonged secretion of in-

* This is one of a group of theses written by fourth year students at the University of Kansas School of Medicine, selected for publication by the Editorial Board from a group judged to be the best by the faculty at the school. Dr. Kay is now serving internship at the St. Luke's Hospital, Kansas City, Missouri.

sulin continues after the patient recovers from the stress, and gives rise to symptoms of hypoglycemia three to five hours after meals. The symptoms of weakness, sweating and hunger, relieved by eating results in weight gain in individuals with a previously stable weight. He (Allen) screened 1,207 diabetic patients and obtained a similar history in 54 per cent.

Improvement in routine diagnostic measures in recent years has consisted of refinement of existing tests. Routine fasting blood sugar determinations and urinalysis are infrequently of any value in early diagnosis of diabetes; however, transient glycosuria, frequently considered to be nonspecific, has been recently emphasized as an indication of prediabetes.

Glucose Tolerance Test

The oral glucose tolerance test (GTT) developed by Jacobson in 1917 remains the most useful clinical test in the early diagnosis of diabetes today. Data and experience gained through long use of the test has made possible some refinement and has led to the establishment of new criteria for the diagnosis of diabetes. Criteria cited by Fajans and Conn consists of a loading dose of 1.75 Gms. of glucose per kilogram of ideal body weight and true blood glucose determinations by the Somoygi-Nelson method. Their minimum values for diagnosis of diabetes is 160 mg. per cent at one hour and 120 mg. per cent at two hours. Widespread use of a standard 100 Gm. loading dose of glucose detracts from the sensitivity of the test. Conn in 1940 emphasized the importance of a preparatory diet consisting of from 250 Gms. to 300 Gms. of carbohydrate daily for three days prior to the test, as a safeguard against decreased glucose tolerance due to glucose deprivation. Wilkerson studied the preparatory diet more extensively. He used 18 individuals without a family history of diabetes who had a normal GTT and gave them a diet containing only 20 Gms. of carbohydrate daily for five days. At the end of this period 12 of the 18 subjects had curves above the minimum cited for the diagnosis of diabetes. The GTT returned to normal in all but one of the individuals after five days of a diet with 150 Gms. of carbohydrate. He reviewed the carbohydrate intake of 441 clinic patients and found that 82 per cent had a daily carbohydrate intake greater than 150 Gms. and 99 per cent had an intake greater than 100 Gms. per day. He concluded that a preparatory diet was seldom of significance except in patients with disease that required strict modification of the diet or in acute illnesses. The rate of absorption of glucose causes some variation in the test. Rapid emptying of the stomach causes an abnormal peak at one hour. Although the one hour peak may not be significant, a rapid drop and a rebound peak at two hours may lead to the

erroneous diagnosis of diabetes. A one and a half hour determination obviates this possibility. Delayed gastric emptying and impaired absorption may produce a low flat curve that is not a measure of glucose tolerance.

There is a paucity of published data establishing the criteria for diagnosis of diabetes mellitus by the GTT. However, the lack of long term follow up of patients with abnormal glucose tolerance tests is understandable. The institution of appropriate dietary therapy will alter the subsequent course of the disease process. Some indication of the adequacy of the present criteria can be found in the study by Unger and Madison. They followed 45 patients whose GTT showed a one hour level of between 160 mg. per cent and 180 mg. per cent; and a two-hour value of between 100 mg. per cent and 120 mg. per cent for seven years. At the end of the study 15 per cent of the patients were found to have elevated fasting blood glucose values. Conn and Fajan have provided a different approach to establishment of the present criteria by studying relatives of diabetics. In patients with a family history of diabetes, they found 81 of 438 individuals with GTT diagnostic of diabetes and 17 individuals with curves that equaled the minimum criteria for diagnosis. In contrast 127 people without a family history of diabetes were tested by the GTT. Only one subject had a curve diagnostic of diabetes and one patient had a curve meeting the minimum criteria.

The significance of the three to five hour fall in blood glucose levels below fasting levels (so-called reactive curve) is recognized as an early manifestation of decreased glucose tolerance. This component of the GTT has not been established as a criteria for diagnosis of diabetes although it is consistent with Allen's hypothesis of prediabetes. Seltzer, Fajan, and Conn studied 110 patients with a GTT diagnostic of diabetes who had hypoglycemic episodes at three to five hours with blood glucose levels below 50 mg. per cent. A drop of 15 mg. per cent below fasting levels between three and five hours is considered by some to be significant. The establishment of criteria for the diagnosis of diabetes based on this finding, supported by adequate data would considerably enhance the value of the GTT.

The two hour postprandial blood sugar determination is the best single determination for impaired glucose tolerance, but lacks the sensitivity of the GTT since the loading dose of carbohydrate may be variable, and lacking in free sugar. A loading dose of glucose, 100 Gms., in place of a meal will considerably improve the specificity of this test.

CGTT Provides an Additional Tool

The cortisone glucose tolerance test (CGTT) developed by Fajans and Conn has provided an ad-

ditional tool for early demonstration of diabetes. The test consists of doses of 50 mgm. of cortisone eight and one-half hours and two hours prior to the loading dose of glucose. The remainder of the test is the same as the GTT. Criteria for diagnosis of diabetes established by the authors is a blood glucose level of 160 mg. per cent at one hour and 140 mg. per cent at two hours. They followed 127 relatives of diabetics who had a normal GTT, but a positive response to the CGTT. A follow up study seven years later showed 35 per cent of the 127 patients to be diabetic by the GTT. Since the CGTT is dependent upon decreased beta cell function and further stresses the system through the gluconeogenesis effect of cortisone, it is still dependent on inadequate insulin secretion. While the test has some merit in establishing the diagnosis of diabetes in cases with questionable glucose tolerance tests, it is still in the research phase and has not been accepted as a routine clinical test.

Other Tests for Diabetes

Various other tests for diabetes based on inadequate insulin response have been introduced and tested. Of these the intravenous glucose tolerance test (IGTT) has undergone considerable clinical trial. The test consists of the intravenous injection of 25 Gms. of glucose. There are two criteria for interpretation of the test. A failure of the blood glucose to return to normal in one hour is one criteria for diagnosis and is the one commonly used. A system of interpreting the test developed by Jorgenson and modified by Hamilton and Stein consists of making blood sugar determinations at regular intervals between 15 and 60 minutes after the injection of glucose and plotting the results on semi-logarithmic graph. From the linear curve obtained, the rate of uptake of glucose per minute by tissue may be determined. Values considered diagnostic for diabetes were 0.95 mg. per minute or less. Values for normal individuals ranged between 1.0 mg. per minute and 3.45 mg. per minute. The merit of evaluating the test by this method is that the results may be expressed as a number, and a simple numerical expression of the insulin response simplifies the follow up of the diabetic tendency. As a clinical test, the IGTT is not superior to the GTT and the benefit of bypassing intestinal absorption when the GTT indicates abnormal absorption, is the main indication for its use.

A study carried out by Poucher and Pote comparing the GTT, the CGTT and the IGTT gives some indication of the relative value of the three tests described. They used 175 individuals who were relatives of diabetics and carried out all three tests on each individual. The IGTT was positive in 20 patients, 11

per cent; the GTT was positive in 33 patients, 19 per cent; and the CGTT was positive in 48 patients, 27 per cent.

The intravenous tolbutamide test developed by Unger and Madison has not proven to be superior to the GTT and remains a research tool.

While refinement and continued research on present methods of early diagnosis of diabetes based on inadequate insulin response may be fruitful, there is obviously a need for a means of identifying the genetic defect before the loss of carbohydrate tolerance becomes manifest.

Recent research on the vascular complications of diabetes may provide a new approach to the problem. Jaeger in 1855 first described a vascular lesion, diabetic retinopathy, considered specific for diabetes. In 1936 Kimmelsteil and Wilson published their findings of a periodic acid schiff (PAS) stainable lesion in the kidney of diabetics, and recognized the relationship to diabetes mellitus. Less advanced changes in the glomerular capillaries of diabetics were noted by Bell.

The possibility that the retinal and glomerular lesions might be part of a generalized angiopathy was suggested by Friedenwald. The presence of vascular abnormalities prior to the onset of chemical diabetes was noted by Dietzel, who studied the vessels of the bulbar conjunctivae of children of diabetic mothers. Findings of venous distention, decrease in capillary blood flow, absence of capillaries and edema were described in 36 of 80 children; however, the relationship of these findings to the intracapillary lesions described by Kimmelsteil and Wilson is not well understood.

Goldenberg and associates studied capillaries of amputation specimens using PAS and colloidal iron stains. They found characteristic PAS positive endothelial thickening in capillaries in 85 of 92 diabetics. The same lesion was found in two of sixty nondiabetics. These two cases represented arteriosclerosis obliterans who had not been evaluated for diabetes. Hypertensive patients had a similar PAS positive lesion, but reticular fibers were demonstrated in the lesions with colloidal iron stains. Reticular fibers were not demonstrated in the lesions of the diabetics. The lesions of the diabetics were most commonly found in adventitial tissue around large vessels, in septal vessels of muscle, in vasa nervorum and in dermal vessels.

Bloodworth examined subcutaneous capillaries with light and electron microscopy and described thickening of the basement membrane, similar to early changes described in diabetic nephropathy. He concluded, however, that similar changes were present in patients with hypertension. He did not use the col-

loidal iron method to differentiate between the lesions.

Aagenaes and Moe studied dermal capillaries obtained by skin biopsy from diabetics and non diabetics. Their findings confirmed Goldenberg's results, and their study demonstrated the accessibility of vascular tissue with recognizable changes.

Camerini-Davalos and associates studied dermal capillaries with electron microscopy in 25 children who had a history of diabetes in both parents. The children used had no demonstrable defect in glucose tolerance. Basement membrane widening was found in the capillaries in 17 of the 25 individuals. It is probably too early in the study of these vascular lesions to attach unwarranted importance to the described findings. It is not yet known whether the changes described by Camerini-Davalos in prediabetics occur early enough or are sufficiently advanced to be demonstrated with light microscopy and PAS stain, but the easy accessibility of tissue and a specific vascular lesion for diabetes mellitus may offer possibilities for diagnosis of diabetes at a considerably earlier time than is now possible using tests based on defective glucose tolerance.

Summary

The oral glucose tolerance test remains the best method for detection of diabetes. When not diagnostic of diabetes by presently accepted criteria, the response to the test may still indicate a probability of diabetes, *i.e.*, a decline in blood sugar below fasting levels at three to four hours. In such cases the CGTT, by adding additional stress upon the beta cells, may confirm the diagnosis in a significant number of cases. The procedure has not been sufficiently tested and has not been widely accepted as a routine screening test. The intravenous glucose tolerance test and the tolbutamide stimulation tests are not as sensitive as the GTT. Tests available today are dependent upon defective islet cell function and regardless of improvement and refinement will not appreciably change the time at which diabetes can be detected.

Recent research has centered on changes in capillaries of diabetics and prediabetics. It has been established that the intracapillary lesion described by Kimmelsteil and Wilson in diabetic nephropathy is, in varying degrees, a generalized capillary change. The change has been described in vessels of children, whose parents are both diabetic, but as yet show no defect in carbohydrate metabolism. The possibility that this capillary lesion occurs sufficiently early and may be demonstrated by a simplified standard procedure offers a new approach to the early diagnosis of diabetes mellitus. With early diagnosis, diet therapy may be instituted to prolong the latent chemical phase

of the disease, and better methods of control can be searched for and evaluated.

EDITOR'S NOTE: References may be obtained by writing the JOURNAL, 315 West 4th Street, Topeka, Kansas 66603.

Private Psychiatric Practice

(Continued from page 22)

often, partisan and emotional attitudes take over when physicians attempt to consider together any alteration in the traditional system of free enterprise and private practice. In the field of psychiatry, there have *in fact* been radical modifications in this system for well over a century.

The author questions whether we should continue to patch and bail out a leaking ship. Might it not be preferable to study anew the entire question of financing good psychiatric services for all citizens, and ask ourselves if there might not be alternatives to our present system, so that choice of physician and continuity of care may be guaranteed mentally and emotionally ill individuals?

NEW MEMBERS

The JOURNAL takes this opportunity to welcome these new members into the Kansas Medical Society.

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Please turn to the insert facing page 22, tear it out and mail it back to us. Answer whatever you wish, or even nothing at all, but please mail it back. This is important.

In the future companies will place advertisements on the basis of reader interest. They asked us to run the questionnaire in this issue and will receive a tabulation of all replies. It is for this reason that we hope for your cooperation. It will make a difference. Thanks.



Sincerely,

John C Mitchell, Jr.

President



Report on Actions of the AMA House of Delegates

Health care for the aging, a new teletype communications system for the medical profession, a statement on human reproduction and recommendations from the Commission on the Cost of Medical Care were among the major subjects acted upon by the House of Delegates at the American Medical Association's 18th Clinical Convention held November 29-December 2 in Miami Beach, Florida.

Tribute was paid to the late Dr. Norman A. Welch, AMA President who died on September 3, in a memorial statement from the Massachusetts Medical Society and in a resolution adopted by the House.

Dr. James Z. Appel of Lancaster, Pennsylvania, vice chairman of the AMA Board of Trustees and a member of the Board since 1957, was named President-Elect of the Association. He will become President in June, 1965, succeeding Dr. Donovan F. Ward of Dubuque, Iowa, who took office after the death of Dr. Welch.

To take Dr. Appel's place on the AMA Board of Trustees, the House elected Dr. Joseph B. Copeland of Austin, Texas, who for the past year has been serving as Deputy Commissioner of Health in the State of Texas.

Health Care for the Aging

Definitive action on the issue of health care for the aging came with the House of Delegates' strong endorsement of Dr. Ward's address, in which he declared that "We have no choice except to stand firm in our efforts to prevent the standards of health care in this country from being undermined by a radical departure from the unique American way which has accomplished so much for mankind."

Reaffirming the Association's opposition to the King-Anderson type of legislation, Dr. Ward said:

"If we have been right in the past—and that is our unshakeable belief—then we are right today. And we shall be right tomorrow."

Calling for renewed, intensive effort to prevent

the passage of such legislation, he pointed out that "we do not, by profession, compromise in matters of life and death. Nor can we compromise with honor and duty."

Dr. Ward, expressing pride in the medical profession, concluded his address with these statements:

"I pray that we all gain strength for renewed effort by the simple reflection that what we are doing is worthwhile—that if the effort is great, the results of not making the effort would be unthinkable—and, finally, what we are doing is vastly more important than ourselves.

"No more can be asked of us as citizens. No less should be offered by us in guarding our heritage of freedom."

To implement the ideas in Dr. Ward's address, the House gave unequivocal approval of a Board of Trustees suggestion that an expanded educational program be conducted in the next few months. In asking for this approval, the Board pointed out that "a variety of techniques and media must be utilized if the public, the Congress and special audiences are to be reached effectively."

The House took no action on three resolutions which would have altered the AMA position on health care legislation. Instead, the House adopted a resolution which urged "component associations to stimulate the state and local governments to seek the fullest possible implementation of existing mechanisms, including the voluntary health insurance principle, to the end that everyone in need, regardless of age, is assured that necessary health care will be available."

Teletype Communications System

The House approved a recommendation from the Board of Trustees for establishment of a teletypewriter communications service between the AMA and the state medical societies. The system will provide automatic and uninterrupted communications between

AMA headquarters and all participating state societies, and between the state societies without involving the facilities at the AMA headquarters. The system also will enable any state society to communicate with all other TWX subscribers in the United States and Canada.

In approving the recommendation, the House emphasized that participation is optional with the state medical societies but it also urged each society to "seriously consider taking advantage of this rapid communications system." Installation and rental costs for the teletype equipment, both at AMA headquarters and at the headquarters of each participating medical society, will be paid by the AMA. The cost of transmitting messages will be paid by whichever organization originates each message. It is hoped that the new communications system will become operative no later than July, 1965.

Human Reproduction

Updating its policies on population control, "to conform to changes in society and medicine" and to "take a more positive position on this very important medical-socio-economic problem," the House adopted the following four-point statement:

- (1) An intelligent recognition of the problems that relate to human reproduction, including the need for population control, is more than a matter of responsible parenthood; it is a matter of responsible medical practice.
- (2) The medical profession should accept a major responsibility in matters related to human reproduction as they affect the total population and the individual family.
- (3) In discharging this responsibility, physicians must be prepared to provide counsel and guidance when the needs of their patients require it or refer the patients to appropriate persons.
- (4) The AMA shall take the responsibility for disseminating information to physicians on all phases of human reproduction, including sexual behavior, by whatever means are appropriate.

In taking the action, the House also recommended that the AMA cooperate with the appropriate voluntary organizations in the field of human reproduction which have adequate medical direction.

Commission on the Cost of Medical Care

With modifications suggested by the Board of Trustees, the House approved 33 recommendations from the Commission on the Cost of Medical Care. The suggestions had been rearranged by the Board into four sections—Research, Hospitals, Physicians and Miscellaneous. In accepting the Board report, the House also rejected a floor amendment which recommended that a medical advisory committee com-

posed of practicing physicians be appointed to supervise the several studies which were suggested.

In presenting its conclusions and recommendations to the Board of Trustees, the Commission on the Cost of Medical Care expressed the hope "that the recommendations which are approved will help promote the wisest possible use of the medical care dollar and aid in the development of more meaningful data on the cost of medical care."

The House learned that a substantial number of the studies recommended by the Commission are already under way and that others are in the process of being implemented. The House also emphasized its appreciation of the importance of these continuing studies and urged that adequate funds be provided for maximum implementation of the recommendations.

Miscellaneous Actions

In considering a wide variety of annual reports, special and supplementary reports and resolutions, the House also:

Amended the Bylaws to permit the presidential inauguration to take place at a time other than Tuesday evening and approved a suggestion that the inaugural ceremony at the 1965 Annual Convention be held on Sunday, June 20;

Amended the Bylaws to permit presentation of the AMA Distinguished Service Award at a time to be determined by the Board of Trustees and learned that the Board wishes to present this award at the Scientific Awards Dinner;

Agreed that the AMA should cooperate with the U. S. Public Health Service in eradicating the *Aedes aegypti* mosquito from the American hemisphere;

Urged strong support of the Woman's Auxiliary and asked the state and county medical societies to give serious consideration to the idea of joint husband-wife membership;

Agreed that a section on Space Medicine should not be created at this time;

Emphasized its continuing awareness of the demand for action on satisfying the need for increasing numbers of family physicians;

Urged all state and component medical associations to approve, where feasible, the inclusion of a voluntary, nondeductible contribution to independent political action committees on the society's annual dues billing statement;

Approved a Board recommendation that the 1967 Clinical Convention be held in Houston, Texas;

Agreed with the Board that there should not be an increase in AMA dues at this time;

Reaffirmed its approval and support of the Na-

(Continued on page 54)



Personalities—IN KANSAS MEDICINE

The board of directors of the Kansas Heart Association recently honored **Norman W. Anderson**, Topeka, for conducting educational and service programs in diseases of the heart and blood vessels. The Association also presented a plaque to **Katherine Pennington**, Wichita, at a meeting there for her meritorious service in the prevention of rheumatic fever and rheumatic heart disease.

Henry H. Haerle, Marysville, has announced his retirement after 45 years of medical practice.

A series of health mobilization courses were held in Osborne county during November. **John F. Cornely**, Osborne, conducted the courses in Osborne and Natoma, and he and **William E. St. Clair**, Downs, presented the program at the Downs meeting.

"Good Health Is a Bargain" was the theme of the health day held in Topeka in November. Among the Topeka physicians serving as panelists on the program were **Francis T. Collins**, **Richard Beach**, **John Head**, **Vernon Wiksten**, and **John L. Lattimore**, who moderated the panel.

A conference on smoking sponsored by the Kansas Tuberculosis and Health Association was presented at the junior and senior high schools in Fort Scott in November. **William E. Ruth**, Kansas City, was among those participating in the program. **James Basham**, Fort Scott, served as moderator.

Waitstill Nickell has been elected president of the board of directors of the Topeka Blood Bank, Inc. Other newly elected officers are **C. G. Hermann**, vice president, and **Richard Field**, secretary.

The annual free medical forum sponsored by the Wichita newspapers and the county medical society was held in Wichita in November. **Herbert C.**

Modlin, Topeka, **F. C. Newsom** and **Austin Adams**, both of Wichita, were speakers.

Roscoe F. Morton, Arkansas City, was elected president of the Cowley County Unit of the American Cancer Society during the group's recent meeting in Winfield. Medical advisors for the group include **W. A. Grosjean** and **H. E. Snyder** of Winfield, and **Garland L. Campbell** and Dr. Morton of Arkansas City.

A special treatment center for birth defects opened this month at the University of Kansas Medical Center. The center, financed through a grant from the Kansas chapters of the National Foundation—March of Dimes, will be under the direction of **Herbert C. Miller**. Dr. Miller is chairman of pediatrics and director of the Children's Rehabilitation unit at KUMC.

Several community hospitals over the state have recently held medical staff elections:

Albert A. Martin is the new president of the Coffeyville Memorial Hospital staff. Other officers are **W. T. Read**, vice president, **J. H. Low**, treasurer, and **William Beine**, secretary.

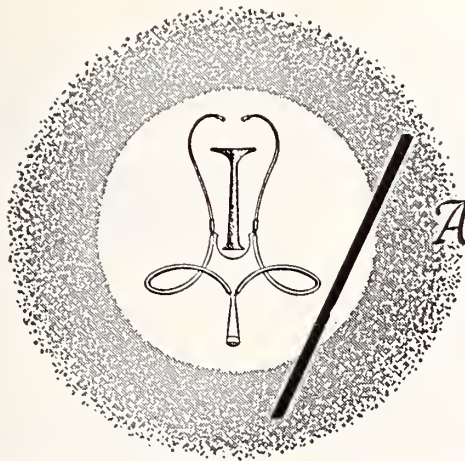
William L. Matthews was elected president of the staff at the Olathe Community Hospital. Other officers elected were **Dale E. Darnell**, vice president, and **Robert Delphia**, secretary-treasurer.

The new officers for Mt. Carmel Hospital, Pittsburg, are **D. J. Lyons**, chief of staff, **George W. Pogson**, vice president, and **J. H. Bena**, secretary.

The medical staff of the Lawrence Memorial Hospital in Lawrence elected **Vernon Branson** chief of staff, **Byron Walters**, vice president, and **Philip Godwin**, secretary. **Glenn Lessenden**, **Monti Belot** and **Howard Wilcox** were named to the executive committee.

Ernest W. Mitts, Bonner Springs, is the 1965 president of the St. Margaret Hospital staff, Kansas

(Continued on page 54)



Announcements

Professional meetings, conferences, and postgraduate courses of national importance are listed for the DOCTOR'S CALENDAR. Notice of the session is posted in advance to allow the physician time to make preparations.

FEBRUARY

- Feb. 18-19 Cardiovascular disease symposium sponsored by the Heart Association of South-eastern Pennsylvania, Philadelphia. Write the heart association at 318 S. 19th St., Philadelphia 19103.
- Feb. 23-26 30th Midwinter Clinical Session, Colorado Medical Society, Hilton Hotel, Denver. Write: Colorado Medical Society, 1809 East 18th Ave., Denver 80218.

MARCH

- Mar. 13-18 Annual teaching seminar, International Academy of Proctology, Jung Hotel, New Orleans.
- Mar. 25-27 Annual meeting, Mid-Central States Orthopaedic Society, Velda Rose Towers, Hot Springs, Arkansas. Write the society at 4101 Westport, Wichita 67212, for more information.

POSTGRADUATE COURSES

American College of Physicians.

- Feb. 15-19 *Pathology, Pathologic Physiology and Clinical Aspects of Renal Disease*, Chicago.
- Feb. 22-26 *Pain and Addiction*, Boston, Mass.

For additional information and registration write Edward C. Rosenow, Jr., M.D., The American College

of Physicians, 4200 Pine Street, Philadelphia 19104. Tuition Fees: Members, \$60; Nonmembers, \$100.

University of Nebraska:

- Feb. 5-6 *Basic Vectorcardiography*
- Feb. 25-26 *Neurology and Psychiatry*

All courses applicable for Category 1 credit, American Academy of General Practice. For more information write: Director of Continuing Education, University of Nebraska College of Medicine, 42 & Dewey, Omaha 68105.

University of Colorado:

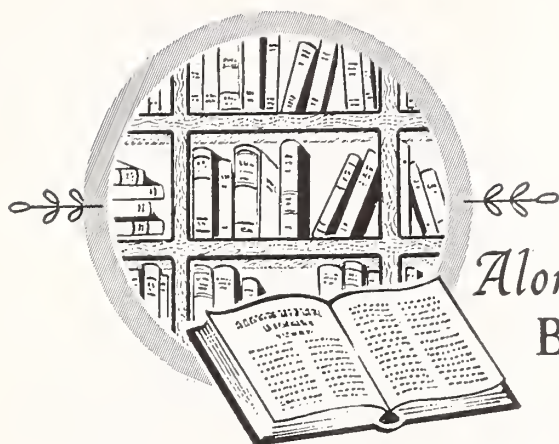
- Mar. 3-5 *Management of Trauma*
- Mar. 15-19 *Medical Technology*

For further information write Office of Postgraduate Medical Education, University of Colorado School of Medicine, 4200 E. 9th Ave., Denver 80220.

University of Kansas:

- Feb. 8-12 *Medical Surgical Clinical Symposia*
- Feb. 15-17 *Radiology and Radioactive Isotopes*
- Mar. 8-10 *Pediatrics*
- Mar. 22-25 *Surgery*

Write the Department of Postgraduate Medical Education, University of Kansas Medical Center, Rainbow Blvd. at 39th, Kansas City, Kansas 66103.



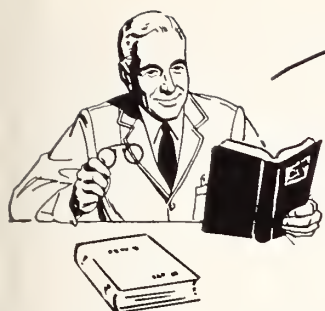
Along The BOOKSHELF

Clendening Medical Library

Recent Acquisitions

- Aita, J. A. Neurologic manifestations of general diseases. Thomas, 1964.
- Bennett, A. C. Methods improvement in hospitals. Lippincott, 1964.
- Binns, T. B., ed. Absorption and distribution of drugs. Williams & Wilkins, 1964.
- Christensen, H. N. Body fluids and the acid-base balance. Saunders, 1964.
- Ciba Foundation Colloquia on Endocrinology v. 15. Aetiology of diabetes mellitus and its complications. Little, Brown, 1964.
- Conference on the Thymus, Minneapolis, 1962. The thymus in immunobiology: structure, function, and role in disease. Hoeber, 1964.
- Dennen, E. H. Forceps deliveries. 2d ed. Davis, 1964.
- Donald, Ian. Practical obstetric problems. 3d ed. Year Book, 1964.
- Dybwad, Gunnar. Challenges in mental retardation. Columbia University, 1964.
- Elliott, F. A. Clinical neurology. Saunders, 1964.
- Erikson, E. H. Insight and responsibility; lectures on the ethical implications of psychoanalytic insight. Norton, 1964.
- Freud, Sigmund. The cocaine papers. Dunquin, 1963.
- Hadley, L. A. Anatomico-roentgenographic studies of the spine. Thomas, 1964.
- Halpern, Lipman, ed. Problems of dynamic neurology, an international volume; studies on the higher functions of the human nervous system. Jerusalem, 1963.
- Hildick-Smith, Gavin, Blank, Harvey, and Sarkany, Imrich. Fungus diseases and their treatment. Little, Brown, 1964.
- Hirschberg, G. G., Lewis, Leon, and Thomas, Dorothy. Rehabilitation; a manual for the care of the disabled and elderly. Lippincott, 1964.
- Hughes, C. C. and others. People of cove and woodlot; communities from the viewpoint of social psychiatry. Basic Books, 1960.
- Iselin, Marc and others. Atlas of hand surgery. Blakiston, 1964.
- Kutscher, A. H., Zegarelli, E. V., and Hyman, G. A., eds. Pharmacotherapeutics of oral disease. Blakiston, 1964.
- Leighton, D. C. and others. The character of danger; psychiatric symptoms in selected communities. Basic Books, 1963.
- MacBryde, C. M., ed. Signs and symptoms; applied pathologic physiology and clinical interpretation. 4th ed. Lippincott, 1964.
- McKusick, V. A. Human genetics. Prentice-Hall, 1964.
- Mellinkoff, S. M., ed. The differential diagnosis of diarrhea. Blakiston, 1964.
- Miller, M. E. Anatomy of the dog. Saunders, 1964.
- Molecular modification in drug design; a symposium, New York, 1963. American Chemical Society, 1964.
- Moore, F. D. Give and take, the development of tissue transplantation. Saunders, 1964.
- Pemberton, John, ed. Epidemiology; reports on research and teaching, 1962. Oxford University, 1963.
- Perou, M. L. Cranial hyperostosis, hyperostosis cranii or H.C. Thomas, 1964.
- Provence, S. A. and Lipton, R. C. Infants in institutions. International Universities, 1962.
- Puestow, C. B. Surgery of the biliary tract, pancreas and spleen. 3d ed. Year Book, 1964.
- Sampson, Harold, Messinger, S. L., and Towne, R. D. Schizophrenic women. Atherton, 1964.
- Schwartz, S. I. Surgical diseases of the liver. Blakiston, 1964.
- Semmes, R. E. Ruptures of the lumbar intervertebral

(Continued on page 54)



Book REVIEWS

DISEASES OF THE CHEST, 2nd Edition, by H. Corwin Hinshaw, M.D., and L. Henry Garland, M.D. W. B. Saunders Company, Philadelphia, 1963. 776 pages illustrated. \$20.00.

As compared to the first edition, this is a completely new book and unless one was extremely familiar with the first edition, very little similarity except in writing techniques could be distinguished. The first edition is out-moded and brief in many aspects due to our limited knowledge of diseases of the chest in 1956. The new edition is one of the finest, most complete textbooks of diseases of the chest (exclusive of the cardiovascular system) I have ever encountered. We are aware of the change that has occurred in the treatment of tuberculosis, the significance of pulmonary physiology and the value of early diagnosis.

All chapters have been extensively revised, expanded, and the latest treatments outlined. The first four chapters deal primarily with diagnostic procedures. An excellent review of the radiologic examination of the thorax is given, as well as a very comprehensive segmental anatomy outline. The chapter on clinical applications of the pulmonary function testing was written by Charles T. Carmin, M.D., and applied many of the basic physiologic principles to every day pulmonary function testing. The outstanding chapters were bronchial diseases and tuberculosis. The chapter on thoracic injuries is superficial and does not cover the subject adequately in many aspects. The more esoteric diseases such as sarcoid, and the collagen diseases, and actinomycosis, the fungi and parasitic diseases are very adequately covered. Each chapter is supplemented with extensive bibliographies often including the classical description, as well as the most modern therapy. The reproductions of the radiographs are excellent. The large subheadings are appreciated and the style of writing is excellent.

This book should have high priority for all people interested in chest diseases. Its greatest value will be

for students, residents, and for the very busy practicing physician who wishes to have command of the chest disease with the least amount of effort. —R.C.L.

RESULTS OF SURGERY FOR PEPTIC ULCER, edited by R. W. Postlethwait, M.D. W. B. Saunders Company, Philadelphia, 1963. 308 pages illustrated. \$8.00.

In a retrospective study covering patients operated for peptic ulcer at twelve VA Hospitals from 1947 through 1957, Dr. Postlethwait and ten associate authors individually and jointly examine current surgery for peptic ulcer from many angles. Carefully sorted and sifted data from 2,977 patients are considered. Selection for the study was by inclusion of all operated cases from the smaller hospitals and by random selection by non-physician personnel from all operated cases at larger hospitals (and, of course, initially by inclusion in the veterans' population). There was a minimum follow-up of two years on all patients considered.

Study methods are well documented, even to illustrations of the actual questionnaire forms used to assemble data. Due consideration is given proposed methods for conducting and reporting future similar studies of this or a prospective type. (A prospective study by an expanded group of the same authors is now in progress.)

Inevitably, there is some overlap of information presented in the 166 tables, 63 figures, and 14 chapters, as different authors examine the subject. The assembled information rotates before the reader like a gem stone before the jeweler—now this facet and then that one presenting, but always with the overlay of multiple contiguous facets. The result is stimulating reading in small doses, but is sufficiently repetitious to wear a bit in larger doses.

No final conclusions can be made or are proposed by the authors, but some indications of preferred methods under various circumstances can be surmised.

Because surgery was performed by many different surgeons, chiefly well supervised surgical residents, the findings should have some significance for the average practicing surgeon. Surgical results are reported usually in the surgeons' opinions and often in the patients' opinions (separately).

While more questions are raised than are answered by this study, it should help considerably in defining terms and in outlining future studies. A helpful summary of other studies regarding vagotomy versus resection appears in the last chapter.

A book of facts and figures, *Results of Surgery for Peptic Ulcer* is worthy of study by anyone interested in peptic ulcer.—*B.M.P.*

HANDBOOK OF LEGAL MEDICINE, 2nd Edition, by Alan R. Moritz, M.D., and C. Joseph Stetler, LL.B. C. V. Mosby Company, St. Louis, 1964. 239 pages illustrated. \$5.75.

A short and informative, although necessarily oversimplified booklet, emphasizing the distinction between medical jurisprudence and legal medicine. The first section on medicolegal investigation presents a bird's-eye view of the physician's role, problems, and responsibilities in this important field. The second section on physician-patient and physician-and-the-law relationships presents a good coverage of many pertinent issues encountered by physicians in the course of medical practice. The book is to be recommended for those desiring an expeditious briefing or review of the subjects covered.—*M.M.H.*

Editorial Comment

(Continued from page 49)

tional Council for Accreditation of Nursing Homes and

Instructed the Board to re-evaluate the mission of the Commission on Medical Practice and take appropriate action.

The American Medical Association Education and Research Foundation reported to the House that one out of every six medical students, interns and residents in the U. S. is now receiving financial assistance from the Foundation's loan fund. The AMA-ERF also announced that Merck Sharp & Dohme pharmaceutical company has made its fourth \$100,000 contribution to the loan fund and has pledged an additional \$100,000 in 1966.

LUCIEN R. PYLE, M.D.
CLYDE W. MILLER, M.D.
Delegates from Kansas

Personalities

(Continued from page 50)

City, Kansas. **Quentin C. Huerter**, Bethel, is president-elect, and **John O. Baeke**, Overland Park, secretary-treasurer.

Roscoe F. Morton was elected president and **George Meek** vice president of the Memorial Hospital staff, Arkansas City.

Arthur C. Cherry, Topeka, was one of the guest speakers at the child welfare conference held in Manhattan in December.

Bookshelf

(Continued from page 52)

- disc, their mechanism, diagnosis, and treatment. Thomas, 1964.
- Seto, Hachiro. Studies on the sensory innervation (Human sensibility). 2d ed. Thomas, 1963.
- Shirkey, H. C., ed. Pediatric therapy. Mosby, 1964.
- Stephenson, H. E. Cardiac arrest and resuscitation. 2d ed. Mosby, 1964.
- Suchman, E. A. Sociology and the field of public health. Russell Sage Foundation, 1963.
- Symposium on Cellular Injury, London, 1963. Cellular injury. Little, Brown, 1964.
- Thannhauser, S. J. Textbook of metabolism and metabolic disorders, 2d ed. Grune & Stratton, 1964. v. 2.
- U. S. Army Medical Service. Preventive medicine in World War II. Communicable diseases, v. 7; Arthropodborne diseases other than malaria. 1964.
- U. S. National Institute of Mental Health. Human aging, a biological and behavioral study. U. S. Govt. Print. Office, 1963.
- Williams, W. W. Sterility; the diagnostic survey of the infertile couple. 3d ed. Author, 1964.

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KANSAS STATE DEPARTMENT OF HEALTH

TOPEKA, KANSAS

Division of Preventable Diseases—Division of Vital Statistics—Kansas Morbidity Incidence
Summary of Cases Reported in September, 1964 and 1963

<i>Diseases</i>	<i>September</i>			<i>January to September Inclusive</i>		
	<i>1964</i>	<i>1963</i>	<i>5-Year Median 1960-1964</i>	<i>1964</i>	<i>1963</i>	<i>5-Year Median 1960-1964</i>
Amebiasis	9	—	3	21	78	38
Aseptic meningitis	4	—	6	11	—	11
Brucellosis	—	—	—	2	6	13
Cancer	517	647	517	3,430	3,337	3,337
Diphtheria	—	—	—	3	—	—
Encephalitis, infectious	34	2	5	61	11	20
Gonorrhea	264	278	267	2,396	2,191	2,111
Hepatitis, infectious	36	23	27	513	195	379
Meningitis, meningococcal	—	—	—	8	11	11
Pertussis	—	11	2	15	64	37
Poliomyelitis	—	—	—	1	—	1
Rheumatic fever	—	—	—	3	—	3
Salmonellosis	28	33	6	219	198	42
Scarlet fever	14	2	8	79	284	415
Shigellosis	32	14	13	216	45	102
Streptococcal infections	93	110	93	1,231	1,075	1,023
Syphilis	73	72	73	698	803	884
Tinea capitis	3	11	12	65	56	88
Tuberculosis	20	33	20	199	221	210
Tularemia	—	2	1	4	15	10
Typhoid fever	—	1	—	3	2	2

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Geary.....	Alex Scott, Junction City.....	C. V. Minnick, Junction City
Greenwood.....	J. Gordon Claypool, Howard.....	Virgil C. Hollenbeck, Eureka
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Jefferson.....	W. A. R. Madison, Nortonville.....	Robert M. Mathews, Shawnee Mission
Johnson.....	George J. Pierron, Olathe.....	Guy W. Cramer, Parsons
Labette.....	John P. White, Parsons.....	Donald L. Snow, Leavenworth
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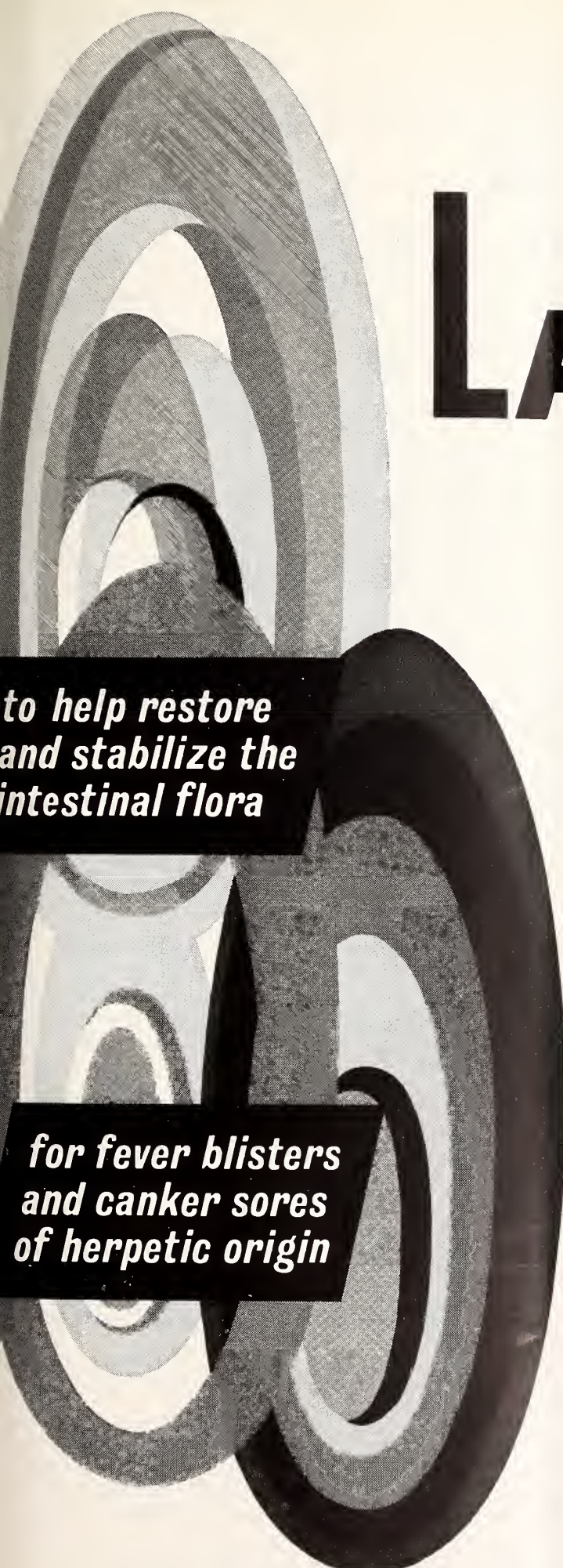
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(1) Frykman, H.M.: *Minn. Med.*, Vol. 38, Jan. 1955. (2) Poth, E.J.: *The J.A.M.A.*, Vol. 163, No. 15, April 13, 1957. (3) McGivney, J.: *Texas State Jour. of Med.*, Vol. 51, No. 1, Jan. 1955. (4) Stern, F. H.: *Jour. of The Amer. Ger. Soc.*, Vol. 11, No. 3, Mar. 1963. (5) Weekes, D. J.: *N.Y. State Jour. of Med.*, Vol. 58, No. 16, Aug. 1958. (6) Abbott, P.L.: *Jour. of Oral Surg., Anes. & Hosp. Dental Serv.*, Vol. 19, July 1961. (7) Weekes, D. J.: *E.E.N.T. Digest*, Vol. 25, No. 12, Dec. 1963.

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The JOURNAL of the KANSAS MEDICAL SOCIETY

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Allergy Issue

If we were called on to name the greatest allergist of them all, the choice might well fall on Warren Vaughan of Virginia. He it was who most clearly delineated two decisive concepts:

First: Allergy is a systemic disease capable of becoming manifest in an endless variety of ways.

Second: Allergy may be caused by virtually any substance, animal, vegetable, or mineral.

On one occasion, being curious as to how common allergy is, Vaughan interviewed the entire population of a town of some 500 people. He came to the startling conclusion that at least half the town had either a major or minor allergy.

If, as Vaughan found—and others have confirmed—something like half our patients are allergic, it is clear that all of us have a share in taking care of them. Fortunately most cases are mild and many are simple. With a minimum of knowledge, every doctor can do much to relieve the suffering of allergic men, women, and children.

It is the hope of the contributors to this symposium that their papers will give the doctors of Kansas substantial aid in dealing with the great group of their patients who suffer from allergic disease.

Symposium Committee

FREDERIC SPEER, M.D., *Editor*

RALPH HALE, M.D.

R. DALE DICKSON, M.D.

At the conclusion of the 1964 Annual Meeting of the Society, as the residues of the scientific exhibits were being removed, Dr. Frederic Speer inquired of me whether the Editorial Board would be interested in a group of papers on allergic problems. An affirmative response led ultimately to the present symposium on the subject, with Dr. Speer acting as special editor for the issue. The issue should prove to be useful to all readers, and for it we are grateful to Dr. Speer and his confreres.

Perhaps this accomplishment may stimulate groups in other specialties to undertake the preparation of specialty symposia.

—EDITOR



Characteristics of the Allergic Patient

Systemic and Constitutional Manifestations of Allergy

R. E. BULA, M.D.,* *Hays*

ALLERGY IS THE ABNORMAL reaction of an individual to some specific substance in his environment. Portier and Richet, in 1902, were the first to notice the severe, shock-like reaction occurring when a foreign substance is introduced into the body for a second time. They gave this reaction the name of *anaphylaxis*. This term has persisted in present day allergic terminology to describe the severe, experimental type of reaction as differentiated from the spontaneous *atopic* type.

Von Pirquet first described allergy as "altered reactivity" in 1906, and ascribed to it a type of antigen-antibody reaction. As soon as Doerr added all forms of changed reactivity, including those in which no antigen-antibody reaction could be demonstrated, confusion resulted as to what is meant when it is said the patient "has an allergy" or he is an allergic patient. Later, to add to the confusion, the terms sensitivity and hypersensitivity became synonymous with allergy to include both antibody and non-antibody reactions, resulting in disagreement as to which is true disease and which is the "strange disease" of Coca. Creip believes that the presence of circulating antibodies differentiates Coca's disease, called atopy, from the type of allergy in which the antibodies are fixed to the cells. However, Coca placed more emphasis on the hereditary factor in allergy, regardless of whether antibodies were demonstrated or not.

Dixon added still another term to the vocabulary of allergists and immunologists when he introduced the concept of *autoimmunity*. This phenomenon describes the abnormal reaction the body exhibits to

Success in the management of highly allergic patients depends on recognition of the fact that severe allergy is a constitutional state with manifold manifestations. Although at times a patient is found to have one allergic disease only, more commonly a widespread disease state exists. Accordingly, success in the treatment of major allergy requires a total approach to the patient.

its own cells and tissues. The term immunity has always implied prevention or neutralization of disease processes, rather than the initiation of a disease. Even though the immune mechanisms of the body are involved, a more logical term for these disease processes would be auto-allergy or auto-sensitivity. Using either of these terms retains the concept of the abnormal response that prevails in any disease process.

The reaction occurring in the allergic patient involves cells which have been previously sensitized by contact with some antigenic substance. This antigen

* From the Eddy Clinic, Hays, Kansas.

is usually protein in nature but may be polysaccharide or inorganic in structure. This antigenic material usually gains entrance to the body by way of the respiratory tract, the gastrointestinal tract, or the skin. When it contacts the sensitized cells, either those in the circulation or those fixed to the tissue cells, there is initiated what Kremer has called a "host panic reaction." There is an immediate liberation of chemicals from the sensitized cells, which affect smooth muscle, the smaller blood vessels, and the surrounding interstitial tissue. Some of these chemicals have been identified as histamine, serotonin, heparin, acetylcholine, and bradykinin. The reaction of the chemicals results in muscle spasm, excessive mucous secretion, edema, vaso-constriction, and increased capillary permeability, depending upon which chemical substances predominate in the specific reaction. Following this explosive contact, all symptoms and other evidence of the reaction characteristically disappear without leaving a trace of injury but can return again each time the offending substance is contacted.

The allergic patient reacts abnormally to a class of environmental factors which have become recognized as causing most of the allergic diseases. However, the list of substances affecting these patients defies classification, and new compounds are constantly being added to it. A complete and detailed history is necessary to elicit past contact with these allergenic materials, either individually or as a group.

Rapaport has developed what he terms an "allergic index" of points in the history, which can be used to determine if some type of allergic reaction is involved in the patient's difficulty. Elements involved in this index are heredity, asthma, colic, chronic gastroenteritis, infantile allergic dermatitis, asthmatic bronchitis, tonsillectomy and adenoidectomy (two or more times), pollinosis, recurrent upper respiratory infections, perennial allergic rhinitis, chronic cough, or repeated tracheobronchitis, intermittent hearing loss, allergic conjunctivitis, croup, two or more episodes of bronchiolitis, paroxysmal sneezing, urticaria, recurrent tracheal clearing, visceral pain syndromes, drug allergy, purpura, migraine, recurrent epistaxis, idiopathic hematuria, and canker sores. From this list it can be seen that the history is the most important aid to the allergist, being far more important than the physical examination or any laboratory procedure, including the skin tests.

The Allergic Diseases

The diseases usually associated with the allergic reaction are hay fever, or allergic rhinitis, asthma, and urticaria. However, allergic disease can involve any system of the body with the presenting complaints referred to that system. Speer has listed sev-

eral of these, grouping them according to the system involved, in this manner:

Respiratory System: asthma, perennial and seasonal rhinitis, polyposis, serous otitis media, Loeffler's syndrome, cough, pneumonia, croup, edema of the glottis.

Gastrointestinal System: abdominal pain and colic, aphthous stomatitis, cheilitis, constipation, diarrhea, bloody stools, distention, geographic tongue, mucous colitis, pruritis ani, ulcerative colitis, vomiting, proctalgia.

Skin: angioedema (angioneurotic edema), urticaria, eczema (atopic dermatitis), id reactions, papular urticaria, erythema multiforme, purpura, drug and food rashes, contact dermatitis.

Nervous System: headache (including migraine), tension, fatigue, convulsions, Meniere's syndrome, tremor.

Eye: conjunctivitis, blepharitis, cataract, ciliary spasm, iritis, keratitis.

Blood: thrombocytopenic purpura, hemolytic anemia, leukopenia, agranulocytosis, eosinophilia of peripheral blood.

Musculoskeletal System: arthralgia, myalgia, rheumatoid arthritis, torticollis.

Genitourinary System: dysuria, vulvovaginitis, enuresis.

Miscellaneous: anaphylactic shock, Arthus reaction, favism, serum sickness, autoimmune diseases.

Characteristics of the Allergic Patient

While it is impossible to describe a typical allergic patient, there are many characteristics which differentiate him from a patient with a single allergic disease and from a patient with no allergic sensitivity. Allergy being an immunologic phenomenon, it is probable that anyone possessing a normal immunologic response to environmental changes is capable of acquiring some type of allergic disease. Only those with a deficiency in immune globulin will be unable to react immunologically when challenged.

An example of this type of simple allergic reaction is the individual who has no allergic difficulties except when he contacts poison ivy or gets urticaria when he eats strawberries. Other patients will have uncomplicated hay fever or a sudden anaphylactic reaction to penicillin or insect stings.

The bulk of allergy practice is made up of patients whose problem is much more than an uncomplicated allergic disease. In their cases, we are dealing with a constitutional state. Although no two cases are identical, they tend to follow a similar pattern of systemic involvement. Child patients are inclined to be pale, irritable, and listless. A common finding is

(Continued on page 78)

Pollens, Molds, and Dusts

Inhalant Allergens of Kansas

RALPH HALE, M.D., *Wichita*

Pollen

IF A LINE IS DRAWN on the map of Kansas from north to south equally dividing the state into an eastern and western half, and if another north to south line is drawn to equally divide the eastern half, the state is separated into three zones, *eastern*, *western*, and *intermediate*. These three zones are found to possess different characteristics based primarily on the quantity of annual rainfall. The intermediate zone may have more or less of the characteristics of east or west according to the amount of moisture from year to year.

This division is important because certain of the fall weeds, such as Russian thistle, Kochia, and the pigweeds, need less moisture and actually are inhibited by excess water. These weeds tend to migrate eastward during successive dry seasons. On the other hand, ragweed requires abundant water and moves westward during rainy cycles. Both types of weeds are found throughout the state, but the east has predominantly ragweed and the west has largely the weeds listed above. The intermediate zone probably averages half and half, swinging one way or another as conditions change.

A most interesting fall pollen is sage, which grows in the intermediate and western zones. A number of patients are seen who give strong skin reactions to this late fall blooming plant and respond to provocative testing with pollen applied to the mucous membrane of the eye or nose. What makes this interesting is that this pollen is almost never seen on slides exposed within the urban area of Wichita, yet a good number of sage-allergic patients live in the city and seldom make visits outside the city limits. Sage tends to grow in isolated patches, which perhaps accounts for this obvious patient exposure and failure to consistently identify the pollen in the air. It may also represent a cross-reaction to the related composite, ragweed.

The three zones also have significance in the distribution of the grasses. The native grasses of Kansas are blue stem, the gramas, and buffalo. Now we find that the *eastern* grasses are chiefly blue grass, blue stem, brome, orchard, and timothy, with Bermuda and Johnson in the south. The *western* grasses are mostly grama, buffalo, western wheat grass, and Bermuda, with the two types merging in the intermedi-

ate zone. Agricultural practices and changing times have caused these additions, plus the many types of lawn grasses cultivated around homes. Grass pollens are highly cross-reactive as allergens. It is felt by some investigators that timothy contains all the allergenic components of most of the eastern type grasses. This may or may not be true. However it is true that

In studying the inhalant allergens of different areas of the Midwest, it becomes apparent that each section has its own problems. It is the purpose of this paper to bring into focus some of the problems of Kansas. The discussion will consider pollens, molds, and miscellaneous inhalant allergens.

grama, Bermuda, buffalo, and Johnson apparently have allergenic distinct components not found in timothy.

There is a scarcity of large wooded areas in Kansas. When the first immigrants arrived, most of the state was open prairie with a few wooded areas in the east and cottonwood and willows along the streams and in the bottom lands. Because of this initial lack of forests, the majority of trees are concentrated around population centers where they have been planted for shade. These are mainly elm, some cottonwood, and a number of other varieties in much reduced quantity such as maple, oak, walnut, pecan, sycamore, and ash. Consequently, about the only tree pollen which causes hay fever in Kansas is elm, mostly American. One of the other common types, called Chinese elm, is actually Siberian elm. It is a small leafed variety which blooms in the early spring with American elm. Fall pollinating elm grows only in southern states, but occasionally, in September, elm pollen is seen on our slides, probably carried here by winds from the south. A few patients, native to south-central or western Kansas, will prove to be allergic to trees other than elm, but these are unusual.

The pollen and mold seasons of Kansas are shown in *Figure 1*. The dates indicating onset, peak of season, and cessation are, of course, approximate. Considerable variation in the tree seasons prevails because of the inconsistencies of our early spring weath-

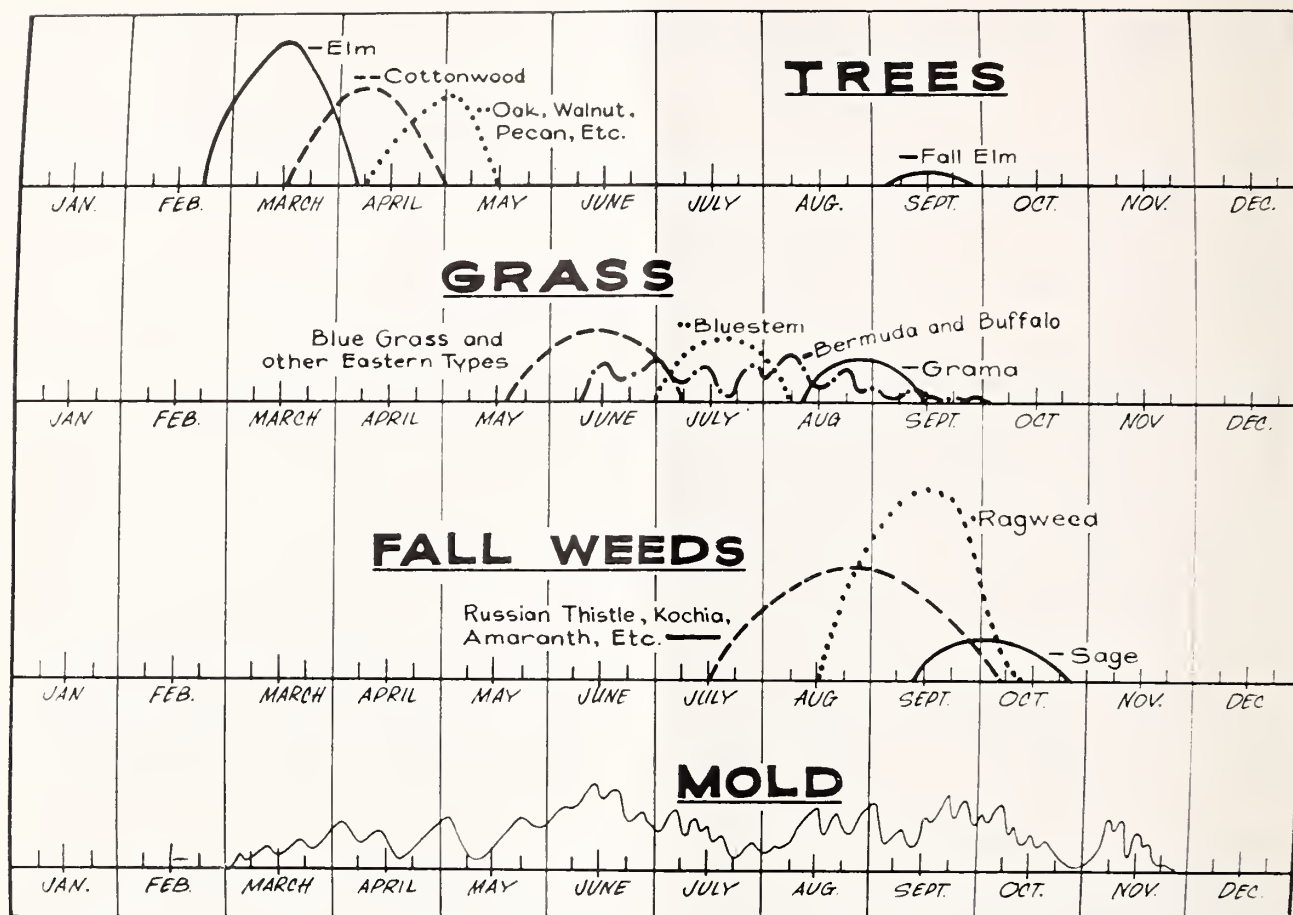


Figure 1. Pollen and mold seasons in Kansas.

er. While the grass and weed seasons are relatively stable, unusual weather patterns will cause variations. Likewise, it should be remembered that there is a difference in the growing seasons from the northern to the southern borders of Kansas. In the north they begin approximately two to three weeks later in the spring and end seven to ten days earlier in the fall.

No recent, systematic pollen survey of this state has come to my attention. The statements concerning the pollen seasons are based to some extent on observations made over the past several years. I made daily pollen counts in Wichita from 1957 to 1960, but this practice has since been abandoned in favor of "spot checks" during the seasons. Even so, much of my information has come from other sources, and special mention should be made of the work of Mr. Tom Stemen, a botanist of Oklahoma City, whose pollen collecting service is well known. In all fairness, it should be said that probably many of his ideas concerning Kansas pollen are masquerading as mine as a result of our frequent conversations.

Mold

Although a mycelial network of mold literally covers the face of the earth and spores are inhaled by everyone daily, an atmospheric concentration suffi-

cient to cause allergic symptoms is dependent upon climatic conditions of warmth, moisture, dryness, and wind occurring in the right combinations. In south-central Kansas, the mold season lasts for nearly nine months, interrupted only by winter snows and cold rains. The harvesting of wheat and the moving of large quantities of grain into storage centers cause an increase in airborne mold. Mold-sensitive patients do not do well when handling grain or hay, working in barns or stables, attending stock shows, etc., regardless of the time of year. Agricultural employment is detrimental to a person allergic to mold, but urban gardening tasks such as mowing lawns and raking leaves also increase exposure to molds. Children with a propensity for rolling in grass and leaves keep their noses close to the source of mold spores. Although there is a true mold season, it is not as constant as the pollen seasons.

It is clear that the out-of-doors is the chief source of mold. Spores do, however, invade buildings, and occasionally a home provides favorable conditions for the growth of mold. A home so infested can be a great source of trouble to a mold-sensitive person.

Even if mold is not actually growing inside the house, spores can be captured from the air of any home at any time. In 1964, from February to Sep-

tember, material was obtained from the furnace filters from ten Wichita homes and was sent to Dr. Marie Morrow, Department of Microbiology, University of Texas. These specimens were studied by direct examination and by culture, and the results are given in Table 1. An attempt has been made to list the species in order of importance as related to frequency of occurrence in this study. This order is not necessarily related to importance as a cause of allergy, especially in regard to *Rhizopus* which was cultured quite frequently but which is not a common allergen. *Alternaria* is by far the most common mold to cause symptoms in this area, but the others must be considered.

TABLE 1
MOLDS IDENTIFIED FROM FURNACE
FILTERS

Direct Examination	Culture
1. <i>Alternaria</i>	1. <i>Rhizopus</i>
2. <i>Hormodendrum</i>	2. <i>Penicillium</i>
3. <i>Curvularia</i>	3. <i>Aspergillus</i>
4. <i>Helminthosporium</i>	4. <i>Hormodendrum</i>
5. <i>Epicoccum</i>	5. <i>Alternaria</i>
6. <i>Penicillium</i>	6. <i>Cryptococcus</i>
7. <i>Aspergillus</i>	7. <i>Curvularia</i>
8. <i>Rhizopus</i>	8. <i>Helminthosporium</i>
9. <i>Fusarium</i>	9. <i>Paecilomyces</i>
10. <i>Pullularia</i>	10. <i>Pullularia</i>
	11. <i>Cephalosporium</i>
	12. <i>Thrichoderma</i>
	13. <i>Fusarium</i>
	14. <i>Epicoccum</i>
	15. <i>Phoma</i>
	16. <i>Mucor</i>

Miscellaneous Inhalant Allergens

House dust is unquestionably the most common inhalant allergen anywhere. It is seasonal in that it becomes more important during the winter when homes are more tightly closed and more time is spent inside. In homes where central air conditioning is a part of the heating system and the house tends to be kept closed throughout the year, the onset of winter does not cause such a noticeable change in dust-sensitive patients.

Animal danders, feathers, etc., hardly merit discussion from the standpoint of regional problems. There is nothing unique about Kansas which creates an unusual situation with regard to these allergens.

In some areas, attention has been drawn to airborne insect parts which act as environmental inhalant allergens. Recognizable body parts of insects can be found on pollen slides, and no doubt a certain amount of the unidentifiable debris must be made up

of particles derived from insect bodies. These particles have been shown to be allergenic,¹ and may be an obscure cause of symptoms in patients from time to time.

One such creature, commonly called the "sow bug" or "roly poly," deserves special consideration as it seems to be plentiful in this part of the Midwest. This is not really an insect but a land-based crustacean related to shrimp and lobster. Large numbers of these live and die each year, and the dead bodies become incorporated in the atmospheric dust. Occasionally a patient will show marked skin reactions to sow bug, shrimp, and lobster and have a history of never having eaten any crustacean. Other patients will have positive skin reactions but be able to eat shrimp and lobster without producing symptoms. It can be presumed that the first group have certainly (and the second group probably) become sensitized by inhalation of the allergen, and if the skin tests have clinical significance the symptoms must be elicited by the inhalant route.

Discussion

Knowledge of the common inhalant allergens of the area in which one lives is of the utmost importance in order to have an intelligent approach to the management of allergic patients. It is a sad thing to see a patient, residing in Kansas, being treated with injections of a mixture of extracts containing equal parts of the antigens listed in Table 2.

TABLE 2
EXPLANATION IN TEXT

Alder***	Western ragweed*
Mountain cedar***	Burweed marsh elder*
Mixed hickory**	Sagebrush*
English plantain**	Russian thistle*
Hemp**	Firebush*
Southern ragweed**	<i>Alternaria</i> *
Mixed grasses*	<i>Aspergillus fumigatus</i> *
Bermuda grass*	<i>Monilia sitophila</i> *
Johnson grass*	<i>Mucor</i> *
Mixed oak*	<i>Fusarium</i> *
Elm*	Mixed yeast*
Cottonwood*	Corn smut*
Sycamore*	Wheat rust*
Mixed ragweed*	

*** The patient has not been exposed to these agents.

** Exposure to these agents unlikely.

* Exposure possible, but definite allergy not established by the history or skin tests.

Only a little effort is necessary on the part of the practitioner to learn what should be included in the treatment mixtures for patients living in his area.

(Continued on page 78)

Food Allergy—

*and the Non-Allergist**

FREDERIC SPEER, M.D., *Shawnee Mission*

THE APHORISM, "One man's meat is another man's poison," is a true if somewhat hackneyed expression of the universal experience of man. But, rooted in folklore though it may be, it is in perfect accord with our present-day understanding of food allergy. Foods which are entirely wholesome to people in general commonly cause a wide variety of allergic manifestations in a large group of patients. It is, in fact, a rare day that the busy practitioner does not see at least one patient who states that certain foods "disagree" with him.

What Is Food Allergy?

Obviously every case where a food is said to disagree with a patient is not an example of food allergy. A type of intolerance which is entirely distinct from allergy is common in such metabolic diseases as diabetes and in such digestive disorders as peptic ulcer. And many a patient simply does not have a digestive tract sufficiently rugged to deal with such foods as onions, stuffed peppers, or boiled cabbage.

To look at food allergy in another way, it also must not be limited by standards which are derived from the study of inhalant allergy. If we insist on positive skin tests or immunologic reactions, as we do with pollens, we will miss the great majority of food sensitizations. With foods (and, incidentally, also with drugs, physical factors, and fumes) we must depend on the patient's reaction. The reaction of his skin may be interesting, but it is of scant practical use. So we can again fall back on a proverb and say, "The proof of the pudding is in the eating." Or in the *not* eating.

What, then are our criteria for establishing the presence of food allergy? If we accept the standards of those great protagonists of food allergy, Vaughan,⁵ Rowe,³ and Rinkel,¹ they may be outlined as follows:

(1) The reaction must not be due to properties inherent in the food. Thus, indigestion after eating radishes and insomnia after overindulgence in coffee do not belong in the realm of food allergy.

(2) The reaction must be a recognized allergic manifestation. (*See Table.*)

(3) Withdrawal of the suspected food must relieve the manifestation in question.

(4) The manifestation should be demonstrable on return of the tested food. This criterion is not always easily established. Tolerance to foods is often inconstant, and under certain conditions the food

Food allergy is a common problem and one that is often well within the province of the non-allergist. By simple elimination diets, the doctor can frequently give the patient the only relief from the miseries of food allergy he will ever get: the avoidance of the foods that make him ill.

may cause no symptoms. The problem of tolerance in food allergy is more extensively discussed below.

(5) Skin testing, although sometimes of value, is never decisive.

The Important Food Allergens

It is often said that the common food allergens are nuts, fish, and chocolate. The basis for this misconception is that these are the foods which, because of their potency, patients themselves most commonly recognize as offenders. In a study of 512 cases of food allergy in children,⁴ the ten most common offenders were found to be the following. They are arranged in order of incidence, and the sources of each are listed.

(1) *Milk*. Includes dried, evaporated, raw, homogenized, pasteurized, skim, and frozen milk. Buttermilk, ice cream, frozen desserts (like sherbets and Dairy Queen), cheese, cottage cheese, and custard. Foods containing milk include gravies, mashed potatoes, escalloped dishes, and cream soups. (Traces of milk in bread, butter, and baked goods rarely, if ever, cause trouble.)

(2) *Chocolate, cocoa, cola drinks.*

* From the pediatric allergy services of the University of Kansas Medical Center and Children's Mercy Hospital, Kansas City.

TABLE
MANIFESTATIONS OF FOOD ALLERGY
WITH FOODS MOST LIKELY TO BE INVOLVED

Eczema	Milk, egg, citrus, corn, wheat, tomato.
Urticaria	Egg, citrus, chocolate, tomato, fish. (But penicillin most common!)
G. I.	Wheat, milk, tomato, apple, egg.
Pruritis ani et vulvae; enuresis	Tomato, food colors, citrus fruits, black pepper, milk, apple.
Headache	Milk, chocolate, corn, pork, onion, wheat.
Tension-Fatigue	Corn, milk, chocolate.
Sweating, pallor	Milk
Achiness	Corn, potato, tomato, wheat, milk.
Aphthae (canker sores)	Toothpaste,* vinegar,* citrus fruits, tomato, chocolate, walnut, pecan, pineapple, food colors.
Foul breath	Milk, egg.
Respiratory allergy	All ten common offenders; see "Important Food Offenders."

* Effect probably chemical.

(3) *Corn*. Includes corn meal (fish sticks, corn bread, baked goods), corn syrup (candy, cookies, most bread and buns, canned fruits, jams, jellies, chewing gum, peanut butter, wieners, lunch meat, ice cream), corn oil, corn starch (gravies, soups, powdered sugar), corn cereals and sweetened cereals, Fritos, corn on cob, Corn Curls, tamales, tacos, popcorn, Crackerjacks, hominy, grits, beer, bourbon, corn flour.

To *avoid* corn: use home cooked baked goods, salad dressings, and soups. Patient may have sugar, brown sugar, honey, cottonseed, olive, or safflower oil, Spry, Crisco, lard, butter, most margarines, any vegetable but corn, any fresh meat, ham, bacon, egg, fish, turkey, shrimp, fresh, unsweetened, dried, or dietetic fruits, olives, most pickles, most potato chips, most carbonated drinks, coffee, tea, fruit juices, crackers, pretzels, noodles, macaroni, milk, cheese, custards, and homemade ice cream.

(4) *Wheat*. During the wheat elimination trial, the patient also avoids corn, rice, barley, oats, and rye. Wheat is found in all breads and baked goods, including rye bread and corn bread, and in macaroni, spaghetti, gravies, soups, licorice candy, pie crust, pretzels, rolls, pancakes, ice cream cones, and waffles.

(5) *Egg*. Found in most baked goods (except simple breads, cookies, and crackers), noodles, mayonnaise, salad dressings, meat loaf, breaded foods, meringue, custard, French toast, divinity candy, and icings. In extreme cases, patient may be made ill by odor of egg or from eating hen meat.

(6) *Pea family*. All types of beans and peas; peanuts.

(7) *Citrus fruits*. Orange, lemon, lime, tangerine, grapefruit.

(8) *Tomato*. Juice, soup, chili, catsup, stews, pastes.

(9) *Cinnamon*. Catsup, sauces, wieners, lunch meat, rolls, cakes, cookies, Dentyne gum, candy (red hots), chili, apple dishes, many other spiced foods.

(10) *Food colors*. All but brown carbonated drinks, Popsicles, bubble gum, liquid medicines, Jello, some wieners (not in Kansas), breakfast drinks and fruit-like drinks, tablets and pills. Food colors are diazo dyes closely related to the sulfonamides.

The Biologic Relationship of Foods

In the above list of the ten common food allergens, it will be seen that the pea family and chocolate-cola are arranged as single foods. This is done because closely related antigens tend to cross-react. Because a working knowledge of this relationship is essential in food allergy study, the common food allergens are classified as follows:

PLANT FOODS

Apple family. Apple (cider, vinegar), pear.

Banana family. Banana.

Buckwheat family. Buckwheat, rhubarb.

Cashew family. Cashew, pistachio.

Citrus family. Orange, lemon, lime, grapefruit, tangerine.

Cola nut family. Chocolate, cola.

Ginger family. Ginger, turmeric.

Goosefoot family. Beet, spinach, Swiss chard.

Gourd family. Cantaloupe, cucumber, squash, pumpkin, watermelon.

Grape family. Grape and raisin.

Grass family. Barley, corn, oats, rice, rye, wheat, sugarcane, sorghum.

Heath family. Blueberry, cranberry.
Laurel family. Avocado, cinnamon, bay leaf.
Lily family. Asparagus, onion, garlic.
Madder family. Coffee.
Mint family. Peppermint, sage, thyme, oregano (?).
Morning glory family. Sweet potato.
Mustard family. Cabbage, cauliflower, broccoli, Brussels sprouts, collards, radish, horse radish, turnip, mustard, rutabaga.
Myrtle family. Allspice, clove.
Nightshade family. Potato, tomato, peppers, eggplant, tobacco.
Palm family. Coconut, date.
Parsley family. Carrot, celery, cumin, coreander, dill, parsley, parsnip. Spices of this family are used in chili and wieners.
Pea family. Beans, peas, peanuts. String beans are least antigenic. Peanut allergy is not related to allergy to other nuts; the name "ground peas" is more accurate.
Pepper family. Black and white pepper.
Pineapple family. Pineapple.
Plum family. Apricot, peach, plum and prune, cherry, almond. As with peanuts, almonds are not related to other nuts.
Rose family. Raspberry, blackberry, strawberry, boysenberry, loganberry. Patients who are said to be allergic to berries, usually have trouble *only* with this family.
Sunflower family. Artichoke, lettuce, endive, sunflower seed.
Tea family. Tea.
Walnut family. Walnut, hickory nut, pecan. Patients who are said to be allergic to nuts are usually allergic only to this family.

Notice that there is no antigenic relationship between white potatoes and sweet potatoes, raisins and prunes, Brazil nuts and hazel nuts (not shown), tea and coffee, cocoa and coconut, orange and tomato, lettuce and cabbage, wheat and buckwheat.

ANIMAL FOODS

Mollusks. Oysters, clams, scallops, abalone.
Crustaceans. Shrimp, lobsters.
Fish. Tuna, salmon, trout, codfish, catfish, sardines, perch, bass, mackerel, etc.
Birds. Chicken, turkey, duck, quail, goose, etc. In general, patients allergic to egg can take chicken and vice versa. But many patients allergic to egg cannot take hen meat. And they should not be given vaccines grown on chicken embryos.
Mammals. Beef, pork, lamb, rabbit, venison, squirrel, etc. The mammalian milks cross-react so closely that the use of goat milk is seldom helpful in cow's milk cases. Cross-reactivity between cow's milk and

beef is not strong, but in severe milk allergy, beef allergy should be looked for.

Detection of Food Allergens

Since it has been found that skin testing and other laboratory methods are of little value in the identification of food allergens, we must depend on clinical methods. Although there are several methods, all depend on two steps: *first*, withdrawal and observation, and *second*, return and observation. Most of the observation is done by the patient or his parent, but the physician is also involved. Abstinence of one week is usually adequate, but in doubtful cases, the time is extended. Milk is an important exception to the rule. Being a generally subtle and slow-acting allergen, it is well to remove it for at least three weeks.

In the Table, the common manifestations of food allergy are outlined along with the foods most likely to cause them. It is with the demonstration of cause and effect in these manifestations that we are involved.

If a patient is told to avoid an obvious food like peanut or chocolate, he will have no trouble knowing what to watch. But with our modern methods of food manufacture, patients need to know where most suspected foods are found. In the above list of "Important Food Allergens" these sources are shown.

Tolerance

In detecting food allergens and in their subsequent management, it is important that we understand the vagaries of tolerance. This is especially true of milk and eggs, two of the great offenders. Many patients are found to be allergic to milk in the winter, think they "outgrow" it the next summer, and are puzzled by their relapse the following winter. They exemplify Rowe's observation that tolerance to food allergens characteristically improves in hot weather.

Factors that *lower* tolerance to foods include: chilling, infections, overexposure, repeated exposure, fatigue, and concurrent inhalant allergy. For example, a patient may have trouble from a food only when he has a head cold or during the ragweed season.

Factors that *raise* tolerance are: dry, warm weather, treatment of inhalant allergy, low intake, spaced feedings, control of infection, and freedom from chilling or fatigue.

Treatment

The basic treatment of food allergy is avoidance of the offending food. Attempts to reduce sensitivity by repeated small doses of the food antigen have been generally abandoned. As we have seen, it is true that

(Continued on page 78)

The Allergic Work-Up

Establishing the Nature and Causes of Allergic Diseases

IRA R. MORRISON, M.D., *Atchison*

SINCE THE FAMILY physician or pediatrician is usually the first to see the allergic patient, they bear much of the responsibility for allergic diagnosis and treatment. Even after patients are referred for allergic evaluation, their doctor must be concerned with their over-all care. For this reason it is well for all physicians to be acquainted with the elements of an allergic work-up. In this paper we will outline the basic features of this procedure.

The History

It is in interviewing his patients and interpreting their stories that the allergist usually obtains his most vital information. Here he draws most heavily on his experience and training to relate the various manifestations of allergy to the multitude of specific and nonspecific causes.^{2, 4}

In dealing with allergic manifestations, the history represents a form of *review of systems*. The manifestations of the presenting disease are first explored. For example, if the patient comes in with asthma, we are interested in duration, time of year, apparent causes, interval between attacks, drugs and other treatment which have been used, role of respiratory infection, weather factors, and previous allergic treatment. These and other points in the history tend to clarify the clinical and etiologic features of the case.

Whatever the presenting problem, a thorough consideration of the effect of allergy on the patient's whole system is in order. Because of the almost unlimited possibilities in constitutional allergy, most allergists find it expedient to use a case history questionnaire (*Figure 1*). This type of aid does not, however, take the place of personal interview.

Study of the questionnaire will show that we are interested in two main areas: *manifestations* and *possible causes*. As to manifestations, no symptom that might be of allergic origin is overlooked. As to causes, not only the familiar environmental and dietary factors are considered, but also physical and emotional stress. Because of the notorious inaccuracy of skin tests for foods, the patient is given an opportunity to check every food, beverage, and condiment in his diet. In interviewing patients as to food reac-

tions, it is well to remember that those sensitive to one food are usually sensitive to many.

Physical and Laboratory Findings

The work-up of every allergic patient requires listening to breath sounds. Expiratory wheezing due to asthma subsides promptly following sublingual or

The work-up of the allergic patient is a clinical investigation that requires unlimited time, patience, and attention to detail. Failure to employ such an approach is a common source of poor results and discouragement. Although the future may bring us simpler methods of management of allergy, there is at present no super highway leading to the speedy, easy diagnosis of the allergic patient.

inhaled isoproterenol. Finding a patient with both inspiratory and expiratory rales brings to mind the fact that "all that wheezes is not asthma" and calls for a thorough study of the bronchial tree and lungs.

Chronic asthma in adults is often associated with obstructive emphysema. Therefore, tests of vital capacity and timed vital capacity are becoming more important. A patient (without false teeth) who can blow out a match at arm's length does not have obstructive emphysema. Failure to blow out the match gives no index, however, as to the *degree* of emphysema. If the patient has greatly increased maximum expiratory flow rate (MEFR) and an increased vital capacity following such bronchodilators as isoproterenol, his respiratory difficulty is chiefly due to asthma, not primary emphysema.

The cardinal symptoms of *nasal allergy* are: (1) dependent blocking, (2) nasal itching, (3) watery or mucoid discharge, (4) paroxysms of sneezing. Staining for eosinophils is helpful, especially in doubtful cases. This may be done by the Hansel technique or with Wright's stain. The presence of boggy, gray nasal mucosa, especially with polyps,

ALLERGY CASE HISTORY QUESTIONNAIRE

- I. Name
Address Town or Farm
Age Occupation
- II. Give family history of allergic diseases: asthma, hay fever, hives, eczema; also include sinus trouble, nasal catarrh, frequent colds, one-sided headaches, food idiosyncrasies or intolerance for certain foods:
Father
Mother
Brothers
Sisters
Maternal Grandparents
Mother's brothers and sisters
Paternal Grandparents
Father's brothers and sisters

III. History:
Chief complaints:
.....
.....

IV. Symptoms.
Check severity and seasonal variations of and approximate age at onset of symptoms which have troubled you. Indicate degree, as: ✓ mild; ✓✓ moderate; ✓✓✓ severe.

	Spring	Summer	Fall	Winter	Age at Onset	Age If and When Recovered
Sneezing						
Itchiness about nose						
Watery nasal discharge						
Nasal blocking						
Postnasal drip						
Cough						
Wheezing (asthma)						
Hives						
Eczema						
One-sided headaches						
Intolerance for foods such as						
Milk						
Eggs						
Wheat						
Chocolate						
Fish						
(Other Foods)						

FIGURE 1

2.

Indicate with X's as above the months of the year that symptoms in general are most apt to be noticed:
O none; / mild; // moderate; /// severe.

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.

Is there any particular time of the day or night that symptoms are prone to occur?

Do symptoms bear any relation to

- Physical stress
- Emotional stress
- Mealtime
- Bedtime
- Exposure to
 - Housedust
 - Barns, chicken coops, etc.
 - Domestic animals
 - Other exposures

Are there any known foods, contacts or exposures, or airborne inhalants that will bring on symptoms?
.....

V. Environment.

Has change of environment, home or work, ever been associated with relief or aggravation of symptoms?
.....

Are there any pets at the home, such as dog, cat, canaries?

What stuffing (kapok, cotton, feathers, etc.) is used in your Mattresses? Pillows?

Are mattresses and pillows covered with plastic or other hypo-allergic covers? Are mattresses
and/or pillows of foam rubber?

Kinds of toilet articles used (soap, shampoos)

Kinds of cosmetics used

Does your house contain the ordinary household furnishings such as overstuffed furniture?
rugs? draperies or tapestry?

Have any special dust precautions been taken in your bedroom or home?

Have skin tests been made in any effort to determine the cause of your allergy?

If so, when, and by whom?

What known medicines or treatment have benefited you?

What known medicines or treatments have failed to relieve you?

Have you previously had what you would consider an adequate allergy checkup?

3.

Indicate foods causing possible ✓ ; probable ✓✓ ; or definite ✓✓✓ distress or allergic symptoms:

Class 1—Meats and Fish

Beef
Pork
Lamb
Fowl
Fish
Egg
Milk

Class 2—

Wheat
Rye
Barley
Oats
Corn
Rice

Class 3—

Buckwheat
Rhubarb

Class 4—

Potato
Tomato
Egg Plant
Green Pepper

Class 5—

String Bean
Lima Bean
Navy Bean
Soy Bean
Lentil
Peas
Black-eyed Peas
Peanuts

Class 6—

Radish
Horse Radish
Water Cress
Turnip
Rutabaga
Cabbage
Kale
Brussels Sprouts
Kohlrabi
Cauliflower
Broccoli

Class 7—

Spinach
Beet
Swiss Chard

Class 8—

Carrot
Parsnip
Celery
Parsley

Class 9—

Cucumber
Squash
Pumpkin
Cantaloupe
Watermelon

Class 10—

Onion
Garlic
Asparagus

Class 11—

Sweet Potatoes

Class 12—

Olive

Class 13—

Jerusalem Artichoke

Class 14—

Lettuce

Class 15—

Cotton Seed
Okra

Class 16—

Mushroom

Class 17—

Lemon
Grapefruit
Orange

Class 18—

Grape
Raisin

Class 19—

Apricot
Peach
Plum
Prune
Almond
Cherry

Class 20—

Apple
Pear

Class 21—

Cocoanut
Date

Class 22—

Pineapple

Class 23—

Banana

Class 24—

Figs

Class 25—

Blackberry
Black Raspberry
Red Raspberry
Strawberry

Class 26—

Gooseberry
Red Currant

Class 27—

Blueberry
Cranberry

Class 28—

Black Walnut
English Walnut
Pecan
Hickory Nut

Class 29—

Hazelnut
Brazil Nut
Chestnut

Class 30—

Cashew
Pistachio

Class 31—

Cocoa

Class 32—

Coffee

Class 33—

Tea

Class 34—

Black Pepper

Class 35—

Nutmeg

Class 36—

Dill
Anise Seed

Class 37—

Poppy Seed

Class 38—

Cloves

Class 39—

Cinnamon

Class 40—

Juniper

Class 41—

Ginger

KANSAS POLLENS AND FUNGI

Kansas Pollens listed according to onset and duration of pollination. Time may vary two to three weeks depending upon weather conditions and geographical location.

13 TREE POLLENS

	Reactions		Time of Pollination
	Sc.	I.D.	
BIRCH, WHITE (Betula alba)			March and April
ELM (Ulmus americana)			March and April
COTTONWOOD (Populus deltoides)			March to May
MAPLE, SOFT (Acer saccharinum)			March to May
PECAN (Hicoria pecan)			March to May
WILLOW, BLACK (Salix nigra)			March to May
BOX ELDER (Acer negundo)			April
ASH, WHITE (Fraxinus americana)			April and May
HACKBERRY (Celtis occidentalis)			April and May
HICKORY, SHELLBARK (Hickory ovata)			April and May
OAK, POST (Quercus stellata)			April and May
SYCAMORE, EASTERN (Platanus occidentalis)			April and May
WALNUT, BLACK (Juglans nigra)			April and May

14 GRASSES

BERMUDA (Cynodon Dactylon)			March to Dec.
JUNE, KENTUCKY BLUE (Poa pratensis)			May and June
ORCHARD (Dactylis glomerata)			May and June
BLUE, CANADA (Poa compressa)			May to July
BLUE, ANNUAL (Poa annua)			May to Aug.
CORN (Zea mays)			May to Aug.
BROME, SMOOTH (Bromus inermis)			June and July
FESCUE, MEADOW (Festuca elatior)			June and July
RED TOP (Agrostis palustris)			June and July
TIMOTHY (Phleum pratense)			June and July
RYE, ITAL. (Lolium multiflorum)			June to Aug.
ALFALFA (Medicago sativa)			June to Sept.
JOHNSON (Holcus halepensis)			July to Sept.
QUACK (Agropyron repens)			July to Sept.

19 WEEDS

	Reactions		Time of Pollination
	Sc.	I.D.	
PLANTAIN, ENGLISH (Plantago lanceolata)			April to July
SHEEP SORREL (Rumex acetosella)			May to July
DOCK, BITTER (Rumex obtusifolius)			July and Aug.
BURWEED (Iva xanthifolia)			July to Sept.
KOCHIA, SUMMER CYPRESS (Kochio scoparia)			July to Sept.
LAMBS QUARTERS (Chenopium alba)			July to Sept.
PIGWEEED, ROUGH (Amaranthus retroflexus)			July to Sept.
PIGWEEED, SPINY (Amaranthus retroflexus)			July to Sept.
RUSSIAN THISTLE (Salsola pestifer)			July to Sept.
SAGEBRUSH, COMMON (Artemisia tridentata)			July to Sept.
SAGEBRUSH, GREEN (Artemisia dracunculoides)			July to Oct.
RAGWEED, FALSE (Franseria acanth.)			Aug. and Sept.
COCKLEBUR (Xanthium canadense)			Aug. and Sept.
MARSH ELDER (Iva ciliata)			Aug. and Sept.
RAGWEED, GIANT (Ambrosia trifida)			Aug. and Sept.
RAGWEED, SHORT (Ambrosia elatior)			Aug. and Sept.
WEST WATER HEMP (Acnida tamarascina)			Aug. and Sept.
RAGWEED, WESTERN (Ambrosia psilostachya)			Aug. to Oct.
SAGEBRUSH, PRAIRIE (Artemisia ludoviciana)			Aug. to Oct.
CONTROL			

10 FUNGI

Spring—Summer—Fall

	Sc.	I.D.
ALTERNARIA		
ASPERGILLUS (mix)		
CHAETOMIUM		
HELMINTHO SPORIUM		
HORMODENDRUM		
MONILIA		
MUCOR		
PENICILLIUM (mix)		
RHIZOPUS		
TRICHOPHYTON		

FIGURE 2

FOODS

Scratch tests for foods may be placed on the back rather close together ($\frac{1}{2}$ ") because they usually give smaller reactions than the incidentals and much smaller than the pollens.

ROW 1		
	Sc.	I.D.
1 Almond		
2 Apple		
3 Apricot		
4 Arrowroot		
5 Asparagus		
6 Banana		
7 Barley		
8 Beef		
9 Beet		
10 Black Pepper		
11 Brazil Nut		
12 Broccoli		
13 Buckwheat		
14 Cabbage		
15 Cantaloupe		
16 Carrot		
17 Cauliflower		
18 Celery		
19 Cheese (Amer.)		
20 Cherry		
21 Chicken		
22 Chocolate		
23 Cinnamon		

ROW 2		
	Sc.	I.D.
1 Clam		
2 Cloves		
3 Cocoanut		
4 Codfish		
5 Coffee		
6 Corn		
7 Crab		
8 Cucumber		
9 Egg White		
10 Egg Yolk		
11 English Walnut		
12 Garlic		
13 Gelatine		
14 Ginger		
15 Grape		
16 Green Pepper		
17 Grapefruit		
18 Halibut		
19 Herring		
20 Hops		
21 Lamb		
22 Lettuce		
23 Lima Bean		

ROW 3		
	Sc.	I.D.
1 Lobster		
2 Mackerel		
3 Malt		
4 Milk (cow's)		
5 Milk (goat's)		
6 Mushroom		
7 Mustard		
8 Navy Bean		
9 Oat		
10 Olive		
11 Onion		
12 Orange		
13 Oyster		
14 Pea		
15 Peach		
16 Peanut		
17 Pear		
18 Pecan		
19 Pineapple		
20 Plum		
21 Pork		
22 Potato		
23 Prune		

ROW 4		
	Sc.	I.D.
1 Raspberry		
2 Rhubarb		
3 Rice		
4 Rye		
5 Salmon		
6 Shrimp		
7 Sole (flounder)		
8 Soy Bean		
9 Spinach		
10 Squash		
11 Strawberry		
12 String Bean		
13 Sweet Potato		
14 Tea		
15 Tomato		
16 Tuna Fish		
17 Turkey		
18 Turnip		
19 Veal		
20 Watermelon		
21 Wheat		
22 Yeast (baker's)		
23 Yeast (brewer's)		

INCIDENTALS

May give slightly larger reactions than the foods but not as large as the pollens.

ROW 1		
EPIDERMALS & MISC.	Sc.	I.D.
1 Camel Hair		
2 Cat Hair		
3 Cattle Hair		
4 Cotton		
5 Cottonseed		
6 Dog Hair		
7 Feathers (mix)		
8 Flaxseed		
9 Furs (mixed)		
10 Glue		
11 Goat Hair		
12 Grain Mill Dust		
13 Henna		
14 Hog Hair		
15 Horse Dander		
16 House Dust		

ROW 2		
	Sc.	I.D.
17 Human Hair		
18 Jute		
19 Kapok		
20 Karaya Gum		
21 Kleenex		
22 Newsprint (mix)		
23 Orris Root		
24 Pyrethrum		
25 Rabbit Hair		
26 Rayon		
27 Sheep Wool		
28 Silk		
29 Sisal		
30 Tobacco		
31 Tobacco Smoke		
32 Upholstery Dust		

makes the use of nasal smears unnecessary in establishing the diagnosis of allergic rhinitis.

In *eczema*, the allergist must consider the various dermatoses which complicate or mimic true allergic eczema (atopic dermatitis). Of especial importance are seborrhea, infection, psoriasis, contact dermatitis, and xerosis.

Patients seen by allergists for possible *gastrointestinal allergy* usually have had thorough study to rule out other causes of trouble. If not, the most exhaustive physical examination and laboratory studies are indicated. Except for such minor findings as vague, generalized tenderness and moderate distention, findings are usually negative. It is sad to contemplate how many patients with gastrointestinal allergy are still dismissed by the most highly trained physicians and discharged from the greatest medical centers with a diagnosis of psychosomatic disease.

Skin Testing

Scratch (cutaneous) tests are preferred as screening tests. The fact that they are painless makes extensive testing possible, and the fact that they do not cause reactions makes their preliminary use mandatory.

Doubtful reactions are checked with *intradermal* (intracutaneous) tests. They also give some idea of sensitivity, a fact that has led to their use in "titration." It must be remembered that this type of testing is not without danger¹ and should be used only by those experienced in its use. The chief precautions are: (1) always do a preliminary scratch test and (2) have epinephrine (Adrenalin) on hand for *immediate* use. Both scratch and intradermal tests are less accurate in most cases if the patient has had a recent antihistamine, but corticosteroids do not affect their accuracy.

The pain of intradermal testing may be reduced by prior application of an ice cube to the test area. Physicians who have forgotten how painful an intradermal injection may be should see how much less

pain they themselves will notice when this method is used.

The type and number of allergens to be used in any case depend on the history. For example, we do not use the same extracts in simple hay fever that we use in migraine or gastrointestinal allergy. In *Figure 2* are to be found the extracts used in our office.

The passive transfer technique of Prausnitz and Küstner is not of practical clinical application.³ Its use is now pretty well limited to investigative work.

Correlation of Findings

It is perhaps here that the allergist faces his most difficult task and draws most deeply on his training and experience. First he endeavors to obtain enough information from the history, skin tests, and other initial procedures to determine the fundamental factors in the case. The patient frequently has a long and discouraging history of ineffective treatment and is badly in need of specific relief. If the basic factors can be determined during the work-up, he will more wholeheartedly cooperate in the follow-up period. He needs to know that discovering the cause does not lead to immediate cure and that final control of his disease may require an extended struggle. The patient's doctor can be a tower of strength to the allergist here. By encouraging the patient to report for check-ups, he is able to do both him and the allergist an invaluable favor. During the follow-up, the allergist keeps his finger on the progress of hyposensitization, food study, drug response, changes in physical findings, and environmental control. These are the necessary minutiae of the sometimes tedious specialty of allergy.

References

1. Buff, H.: Anaphylactic shock following intradermal test with dilute horse serum tetanus antitoxin. *J.A.M.A.*, 174:1200, 1960.
2. Rackemann, F. M.: History taking in allergic disease. *J.A.M.A.*, 106:976, 1936.
3. Ratner, B.: The inadequacy of the passive transfer test as a diagnostic procedure. *Ann. Allergy*, 17:62, 1959.
4. Swineford, O., Jr. and Weaver, W. M.: History taking in allergy. *Ann. Int. Med.*, 20:293, 1944.

Old American proverb "Money isn't everything, but it sure helps." That goes double for money put into U. S. Savings Bonds—it helps provide future security for both the investor and his country.

Allergy of E·N·T

An Important Facet of Otolaryngology

CARROLL W. ARMSTRONG, M.D., *Salina*

IN THE PRACTICE of otolaryngology it is abundantly evident that surgery and antibiotics are only a portion of the therapy needed to control the conditions occurring in this area. One of the important sides or facets to the management of the diseases of the nose, throat, and ear is allergy.

Rhinitis, Sinusitis and Sore Throat

Rhinitis, acute and chronic, may be due to allergy or infection, or both. At times it is almost impossible to tell the infectious from the allergic, so great is their similarity. To put it another way, allergy may simulate infection or infection may simulate allergy. At times they occur simultaneously in the nose, making it necessary for the physician to painstakingly separate the two conditions. This involves the use of the white and differential blood count and going after the obvious infection by the usual means. If an eosinophilia of moderate proportions occurs, an allergy is suggested, especially if the response to infectious therapy is poor. This same pattern may be found in the throat, ear, and sinuses.

Sinusitis, acute and chronic, with a persistent or recurrent history is definitely suspected if a poor response to antibiotics occurs. The "allergic diathesis" should be included in the differential diagnosis, especially if the total round cell count in the differential blood count is below 30 per cent. If an acute sinusitis recurs promptly when antibiotic therapy is stopped, a search for an allergy should be made and included in the differential diagnosis. This is particularly true if such conditions occur about the same time every year.

Chronic sinus disease is notorious for its allergic background. In many cases when it is treated surgically, it recurs in two to six weeks.

Sore throat, including acute tonsillitis, not responding to therapy for infection, may respond to treatment with pollens, dusts, and molds. These inhalants are recurrent and seasonal. In other cases, sore throat and tonsillitis can be relieved by withdrawing foods from the diet and then re-introducing them into the diet one at a time. When the offending food is re-introduced into the diet, the sore throat or tonsillitis will characteristically recur and persist until the food is withdrawn.

Ear Allergy

Allergy may affect the external ear, the middle

ear, or the eustachian tube, either as a single localized process or in connection with an allergy elsewhere. Defective hearing may accompany seasonal or perennial hay fever involving the nose, postnasal space, eustachian tube, or middle ear. At times the external ear may be involved in this process.

Otitis externa, with an allergic etiology, may range in appearance from a light desquamation accompanied by itching to swelling of the entire canal with the formation of a glue-like discharge common to

Along with the important surgical and infectious problems of the nose, throat, and ear is the problem of allergy. Proper treatment depends on the recognition of allergic factors and their specific control.

wet eczema elsewhere. This process may go so far as to produce an atresia or total obstruction of the external canal with debris and moisture. The most common complaint is defective hearing and itching, which may be intense or mild. This is generally found to have either a total or partial allergic etiology. Other cases may have concurrently mixed infections both bacterial and mycotic. If they occur they should be dealt with appropriately. It is interesting to watch the progress of a refractory case once injection therapy is started and the patients have learned to keep soap, water, and cotton swabs out of their ears.

Allergy of the *middle ear* may take either an acute form or a serous form, with or without perforation. Serous otitis media may or may not respond to eustachian manipulation or to repeated otoparacentesis. If persistent, it is quite possible that an allergy may be involved. These cases may have a concomitant nasal allergy suggestive of the correct diagnosis. Frequently appropriate skin testing will suggest that an inhalant allergy is involved. Occasionally one will find a food allergy involved. In the inhalant type of allergy, as the basic sensitivity is brought under control the secretion of serous fluid in the middle ear tends to diminish. The eustachian tube, if involved, becomes more patent and the hearing improves. However, it must be kept in mind that the common cold can be the partial etiology and mask the underlying allergy.

Many adults realizing that they have an allergy of the ear or nose, are likely to try to "get by" with the use of a combination of aspirin, antihistamine, and decongestant. If the condition is mild, they experience success until debility appears (cyclic allergy). They are reluctant to give up the over-the-counter drug long enough to do a reasonable amount of allergy study.

A eustachian tube with no reasonable infection, traumatic history, or tumor of the postnasal space or middle ear to account for its obstruction is suspect of allergy. Some of these will be due to food allergy and others to molds, pollens, or any combination of these allergens.

Allergy and Infection

In these days of the changing clinical picture of viral infections it is difficult to distinguish between a viral infection and an allergy upon inspection of the nose. Each has been seen to mimic the other, and on occasion they may occur together.

In a viral infection the nose, throat, and trachea may have the typical pallor of an allergic membrane. On the other hand, they may be quite inflamed and greatly resemble infection. Here, a blood count helps in reaching a diagnosis. However, a positive skin test for pollens, molds, or dusts should be taken into consideration. For example: if a questionable case is found in which the white count, red count (or hematocrit), and hemoglobin are normal with a differential count showing round cells over 30 per cent, a viral infection may be justly suspected. If this is coupled with a positive skin test for allergens known to be present in the air, it may be considered that the two conditions are operating simultaneously to produce the same clinical entity.

Allergic Headache

Headaches can be due to allergy, to foods, or inhalants. Classification of allergic headaches has been difficult. McGovern divides them into two major categories.

(1) *Intracranial* with involvement of the cerebrovascular microcirculation.

(2) *Secondary*.

- a. Allergy of the paranasal sinuses.
- b. Pressure-referred headache (i.e. pain from another area where allergic edema exists).
- c. Psycho-pathologic allergic headache in which emotions are related to the allergic headache.

The allergic headache is usually not relieved by epinephrine, decongestants, narcotics, or aspirin. The offending allergens are to be hunted down and appropriately treated.

The diagnostic characteristics of the allergic headache have much in common with other allergies.

These are: positive family history, allergic findings elsewhere in the body such as eczema, angioedema, and nasal allergy.

According to Hansel prodromata may or may not be noticed by the patient. The pain is usually generalized with severe throbbing, a sense of pressure, occasional dizziness and mental confusion, and no relief from epinephrine or ergot preparations. These headaches have reproducibility at will by exposure to the offending allergens, either inhalants, foods, or both.

Since histamine is often used in allergy, mention may be made of Horton's syndrome with its unilateral headache, nasal discharge, and red eye with tearing. Both this condition and migraine may turn out to be food headaches.

Discussion

In the over-all picture, inhalant allergies are presently being treated by many with antihistamines and steroids, which give symptomatic relief to many patients on a short term basis. Others suffer from side-effects or obtain no results and are forced to seek the help of an allergist. Some of these patients feel that they cannot afford skin testing and perennial treatment by injection of allergenic extracts. These represent real problems as they often resentfully ask the physician if there isn't a better pill, or say they don't have time for the procedure. To some, the treatment of an allergy represents a financial burden, which finds its expression in such remarks.

This is frustrating to the allergist who knows from experience that inhalant allergies have the greatest over-all results from the use of allergenic extracts and that food allergies have the greatest response from elimination of the offending foods.

References

1. McGovern, John P.: *Headache* Vol. 4, No. 2, July 1964 p. 212.
2. Hansel, French K.: *Clinical Allergy*, 1953 p. 935, C. V. Mosby Co.

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The Asthmatic Patient

Essentials in the Management of Asthma

HARVEY J. MEULBROEK, M.D., *Wichita*

ACCURATE DIAGNOSIS is the basis for the proper management of asthma. This takes two forms. First, we must determine whether the patient's wheezing and difficult breathing are caused by allergy or by other factors. With this step behind us, we proceed to the second phase, an extended study of causative inhalants and ingestants. Coupled with this is the careful consideration of such factors as thermal change, environmental stress, reactions to respiratory irritants, and response to treatment.

A major step in treatment of any patient with a chronic illness, such as asthma, is education in the basic principles of etiology, pathophysiology, and treatment. Management of the asthmatic patient is usually considered to be of two types—specific and nonspecific.

Specific Treatment

Specific management is the cornerstone of allergic therapy and can be broken down into (1) avoidance or elimination of known or suspected offending substances, and (2) immunization or hyposensitization to those allergens which cannot be completely removed. Avoidance can be effectively carried out to offending foods, such environmental allergens as animals and feathers, and, frequently, to occupational antigens. Hyposensitizing injections are commonly given against inhalant allergens that cannot be adequately avoided in the home environment (especially house dust), and to airborne plant pollens and mold spores.

Nonspecific Treatment

Nonspecific therapy includes all medication and other measures used in symptomatic management. This type of treatment is aimed at reversing the events that cause the cough, wheeze, and dyspnea that characterize asthma. These events are: (1) spasm of the bronchial musculature with secondary narrowing of the lumen of the bronchi, (2) edema of the bronchial mucosa, (3) increased secretion of bronchial mucus. These factors, when coupled with hyper-ventilation of the dyspneic asthmatic, lead to (4) dehydration and inspissation of the mucus in the bronchi, thus further compounding the dyspnea. The management of a patient in status asthmaticus with proper fluid and electrolyte therapy and broncho-

dilators is covered under "Management of Allergic Emergencies" elsewhere in this symposium.

In the symptomatic therapy of the less acutely ill patient, a reasonable place to begin is with adequate *bronchodilators*. The drugs most commonly used are the sympathomimetic amines: *epinephrine* by either injection or aerosol, *ephedrine* by elixir or tablet, *isoproterenol* usually by aerosol or elixir, and oral *theophylline*.

The management of the asthmatic patient begins with careful diagnosis. The next step is detailed education about his problem. This is followed by specific treatment consisting of avoidance and hyposensitization. An attempt has been made to review the various methods and medications used in nonspecific management, aimed at symptomatically reversing the pathology of the asthma complex. These include bronchodilators, fluids, expectorants, breathing exercises, postural drainage, corticosteroids, oxygen, antitussives, bronchoscopy, psychotherapy, and surgery.

Commonly observed side effects of the sympathomimetic amines are tachycardia, palpitation, nausea and vomiting, tremor, and headache. These are most frequently observed with epinephrine. Bronkephrine is frequently used in place of epinephrine by injection, and isoproterenol causes much less severe symptoms than epinephrine by aerosol. Ephedrine dosage can usually be regulated in combination with sedatives to minimize the side effects and still achieve desired therapeutic effect. Where intolerance to ephedrine is absolute, preparations containing racephedrine such as Ephoxamine® and Amodrine®, should be used. Sympathomimetics should be used with caution in patients with hyperthyroidism, coronary artery disease, and hypertension, and in patients with limited cardiac reserve. Shrinkage of the edematous bronchial mucosa is aided by many of the same agents that relieve bronchospasm. Isoproterenol is especially effective.

The third step in controlling the asthmatic symptomatically is management of his *secretions*. This step is aimed at reducing the viscosity of the mucus, making it easier for the patient to expectorate. The most significant factor in accomplishing control of secretions is adequate hydration. It is often not adequately appreciated to what extent insensible fluid loss increases in a hyperventilating, perspiring, and dyspneic patient.

In the chronic adult asthmatic, the maintenance oral fluid intake in the range of 2,500 cc. should be emphasized. In emergencies, fluid will usually need to be replaced intravenously, since profound dehydration can occur rapidly. Expectorants should not be overlooked. Under this heading are included iodides, glyceryl guaiacolate, and ammonium chloride. Although there is controversy about the effectiveness of these preparations, iodides are still popular in asthmatic therapy. The standard saturated solution of potassium iodide (SSKI) in a daily dose of 20-40 drops in a satisfactory masking fluid (or the more palatable glycerinated organic iodide in tablet or liquid form) is frequently used in outpatient practice. Contraindications are hyperthyroidism and acne.

The chronic asthmatic whose case is complicated by varying degrees of emphysema frequently benefits by *breathing exercises*. These are designed to teach him to use his abdominal viscera and muscles to elevate his diaphragm during expiration. The patient with copious secretions will frequently be aided by postural drainage. However, he should be cautioned about being too vigorous lest an excess of secretions be mobilized at one time endangering him by "drowning in his own sputum."

Corticosteroids will effectively decrease bronchospasm and mucosal edema, though not as rapidly as the agents mentioned above. Ideally steroids should be limited to short-term usage in the more acutely ill patient and should be given on a diminishing dosage schedule. However, when all other methods have been exhausted in an intractable patient, it may be necessary to maintain him on low dosage to allow him to remain a functional member of society. This decision should never be taken lightly because of the many hazards of long-term steroid therapy. The route of administration of steroids depends on the demands of the situation. In emergencies, hydrocortisone (Solu-Cortef®) 100 to 250 mg. intravenously gives the most prompt response but the shortest duration. Hydrocortisone, 100 mg. intramuscularly or triamcinalone, 40-100 mg. intramuscularly gives almost as prompt a response, and the effect is considerably more prolonged. In most acute asthmatics not responding to bronchodilators, oral steroids on a diminishing dosage schedule are adequate in aiding symptom control. The usual prednisone dosage for

an adult is approximately 30 mg. daily for two days, 20 mg. daily for two days, and then reduce dosage at the rate of 5 mg. every two days. Corticotropin (ACTH), although useful, seems less specific and less prompt in its effect on the asthmatic.

Oxygen therapy should be limited to the cyanotic patient, since the dyspnea of the asthmatic has less to do with perfusion or oxygen transfer than with mechanical airway obstruction. If oxygen is used, care should be exercised that the hypoxic drive to respiration not be limited with resultant hypoventilation, oxygen retention, and acidosis. Intermittent use of oxygen by catheter or cannula seems to be the safest method of administration. It should be removed at least 10 minutes out of each hour.

The use of *antitussives* needs a word of caution. Narcotics were thought at one time to be a leading cause of death in asthmatics. Since the effective, productive cough of the asthmatic is one of the best ways he can control his secretions, it is often doing him a disservice to suppress this cough. However, the patient with an irritative dry cough that causes secondary bronchospasm is often aided by adequate cough control measures. It is sometimes advantageous to mix a bronchodilator with an antitussive in the chronic patient. Morphine is in all cases absolutely contraindicated.

Some of the newer *mucolytic aerosols* (Mucomyst®) can sometimes be used to advantage where tenacious secretions are a major problem. They are particularly effective when used in an intermittent positive pressure machine with isoproterenol. IPPB with 1:200 isoproterenol for 10 to 15 minutes, even without the mucolytic agents, is frequently effective on both hospitalized and outpatients. It is usually used for approximately 15 minutes one to four times daily with 15 cm. of water pressure supplied by oxygen or compressed air.

Bronchoscopy with lavage can be lifesaving in a status asthmaticus emergency. The amount of inspissated mucus one can recover is often startling and the relief obtained by the patient dramatic.

Psychic Factors

It is often difficult to assess accurately the psychogenic factors in any patient with a chronic illness. This is no less so in the patient with asthma. When in an occasional patient these factors seem most prominent, adequate psychotherapy should be considered. In most asthmatic patients, however, the supportive measures of understanding, reassurance, and a positive attitude about their problem are what is needed. In an especially anxious patient, short term use of tranquilizers or sedatives may be indicated. Sedatives should be used with caution because of potential respiratory depression. Antihistamines should

be avoided because of their atropine-like effect of drying an already tenacious bronchial mucus.

Glomectomy

Finally a word should be said about glomectomy. This involves removal of the chemoreceptor at the bifurcation of the carotid artery in the treatment of the intractable asthmatic. Enthusiasm for this procedure originated in Japan approximately ten years ago and has been championed in this country in the past five years by several surgeons, initially Overholtz. The claims of cure and improvement are startling. However, I have been unable to find an adequately controlled study evaluating pre-operative and postoperative pulmonary function studies or other more objective parameters. In fairness, it should be said that our limited experience with six glomectomies has been quite discouraging. Two patients showed possible slight improvement, but none were definitely improved.

Pollens, Molds and Dusts

(Continued from page 63)

But if he depends entirely on the results of skin tests to determine treatment, and this list is sent to a supplier of extracts, his approach is haphazard and the results of treatment are likely to be the same. No apology is needed for the many fine men and women engaged in the manufacture and supply of allergenic extracts. To my knowledge they are all ethical and attempt to maintain high standards for their products, although there are no Federal Government standards except for purity and sterility. The difficulty is that these people are in the business of supplying extracts and they will supply what the doctor orders. It is contingent upon the doctor to know what to order.

This is not a comprehensive review of the inhalant allergens of Kansas and could not be without conducting thorough local surveys over several areas of the state. It is hoped, however, that one result of this presentation will be that some of the problems of Kansas can be seen more clearly and that those interested in pursuing these problems further will be stimulated to do so.

References

1. Perlman, F.: Skin tests with insect allergens. *J. Allergy* 32:93-101, 1961.
2. Morrow, M. B., Meyer, M. A., and Prince, H. E.: A summary of airborne mold surveys. *Ann. Allergy* 22:575, 1964.
3. Samter, M., and Durham, O. C.: *Regional Allergy of the United States, Canada, Mexico, and Cuba*. Springfield, Ill., Thomas, 1955.

Characteristics of Allergic Patient

(Continued from page 60)

infraorbital edema and discoloration (dark circles). They frequently are poor eaters and poor sleepers. Increased activity of the secretory glands is common. As a result there is a tendency to increased sweating and salivation and an increased flow of mucus in the nose, chest, and gastrointestinal tract. Involvement of the various systems may be as follows:

Respiratory Tract: frequent colds, nasal congestion, coughing, recurrent croup, and wheezing.

Gastrointestinal Tract: abdominal pain, constipation and foul breath.

Genitourinary Tract: frequency, enuresis.

Skin: eczema of the skin folds, recurrent urticaria.

Central Nervous System: fatigue, tension, frontal headache.

Adults are usually subject to more orthodox complaints such as asthma. However, the following constitutional symptoms are common: tension, fatigue, generalized aching, headache and nasal congestion ("sinus"), migraine, neck ache, insomnia, chilliness, frequent colds and sore throats, and a variety of gastrointestinal complaints such as indigestion, constipation, and abdominal distention.

References

1. Vaughn, W. T. and Black, J. H.: *Practice of Allergy*. C. V. Mosby Co., 1954.
2. Creip, L. H.: *Clinical Immunology and Allergy*, Grune and Stratton, 1962.
3. Speer, Frederic: *The Allergic Child*, Hoeber Medical Division, Harper and Row, 1963.
4. Dixon, Frank J.: Autoimmunization, *Abstracts of General Medicine*, 4:9.
5. Rapaport, H. G.: Allergic Diseases in Children, *Annals of Allergy*, 22:6.
6. Sherman, W. B.: The Natural History of Allergy, *Journal of Asthma Research*, 1:2.

Food Allergy

(Continued from page 66)

some tolerance may be gained by prolonged abstinence, but in general it is best to avoid the offending food completely with the possibility of occasional deviation from the diet. In practice, the patient himself, once he finds out what foods are giving him trouble, will make the decision as to future feeding.

References

1. Rinkel, H. J., Randolph, T. G., and Zeller, M.: *Food Allergy*. Springfield, Ill., Thomas, 1951.
2. Roth, A.: Detection of food allergy. *Postgraduate Medicine* 32:432, 1962.
3. Rowe, A. S.: *Elimination Diets and the Patient's Allergies*. Philadelphia, Lea & Febiger, 1941.
4. Speer, F.: *The Allergic Child*. New York, Evanston, and London, Hoeber Medical Division, Harper and Row, 1963.
5. Vaughan, W. T.: *Practice of Allergy*. St. Louis, Mosby, 1930.

The Allergic Dermatoses

Management of Allergy of the Skin

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Urticaria

URTICARIA is one of the most frequently encountered of the dermatoses. Whealing may occur in other areas of the body, but in this presentation we will concern ourselves with the skin.

Since not all whealing is allergic in origin, some of the non-allergic forms will be mentioned. *Dermographia* is not usually classified as atopic or allergic, but quite often it may be found to be initiated by a drug, especially penicillin. The *alkaloids* are noted for producing urticaria-like lesions, especially near the area of injection. *Parasitic diseases* and certain malignant blood dyscrasias commonly exhibit whealing. *Insect bites*, especially flea bites in children, may produce a type of allergic reaction, *papular urticaria*. Some of the *viral diseases* of childhood have been observed to be ushered in with urticaria. *Peptone urticaria* may follow ingestion of large quantities of rich food and drink. The rapid absorption of peptones, in turn, releases large quantities of histamine. It is possible that urtication from *heat* or *cold* sensitivity may be allergic. The heat type may be found to be cholinergic. Cold urticaria is not well understood, but it may aid in the explanation of some cases of sudden death in swimmers and deaths associated with exposure. *Bites* and *stings* of certain animals, fish, caterpillars, moths, leeches, and bees and irritating or noxious weed resins may induce whealing. A *familial type* of urticaria is known to affect various members of families. It may be traced through many generations with a rather high death rate from laryngeal edema. There is often a history of numerous laparotomies because of gastrointestinal urticaria.

Acute Urticaria

Acute urticaria is the most common type of allergic urticaria. It is readily amenable to treatment, lasts for a few days to a week, and ordinarily does not present too great a diagnostic problem. The history will commonly disclose that the patient has ingested a food that he himself suspects. Possibly he has been given a medication, either by mouth or parenterally, a serum, or even an overdose of dust, mold, or pollen extract. It is not uncommon for the patient to have made his own diagnosis from previous similar episodes.

Specific treatment of acute urticaria consists of elimination or reduction of the causative agents. Epinephrine in small doses, frequently administered, is

the time-honored and dependable treatment for immediate relief. It may be used in oil or in other forms offering slow absorption. Full doses of antihistamines alone or combined with ephedrine or phenylephrine are also useful. Benadryl has served me

Although the management of allergic dermatoses is notoriously tedious and difficult, careful attention to etiologic diagnosis and specific treatment is most rewarding. In this article the essentials of management are outlined. Where the causes are carefully sought out and eliminated, the treatment of the majority of allergic dermatoses is well within the province of the family physician.

very well in most cases, because its sedative effect is advantageous in urticaria. By far the most dramatic results can be produced with adequate dosage of steroids, starting with the equivalent of five or six 4 mg. tablets of triamcinolone (or the same number of 5 mg. tablets of prednisone) and slowly decreasing the dosage to a minimum of one tablet a day. We discontinue the steroid three or four days after symptoms are controlled.

Since foods are the most frequent offenders in acute hives, I routinely put the patient on a simple, well-cooked diet, avoiding fish, pork, spices, chocolate, onions, citrus fruits, garlic, fresh tomatoes, cheese, nuts, eggs, and other foods which seem to have a place in etiology. Alcoholic beverages are interdicted. A few days after symptoms have abated, foods are again added, one food every two days until the patient is back to his usual diet or until he reacts to one to which he may be allergic. This food is then again removed from the diet, and no new foods are added until symptoms have had time to abate.

Chronic Urticaria

Chronic urticaria is an altogether different entity in which successful treatment requires much greater skill and a measure of good fortune. It may have begun as an acute urticaria which was unrelieved or undiagnosed and allowed to continue for weeks or months. Remissions are common in these cases and

recurrences should not be viewed with alarm. The cause may never be found, and the types of treatment used are legion.

Chronic urticarias are frequently initiated by some allergic insult. As time goes on they are continued by other agents, which ordinarily may not be able to produce symptoms. But when the allergic pendulum is swung to the symptom-producing side, it requires very little to keep the reaction going. It may require extended treatment to produce a remission. Even then the remission may not be permanent. Next a very detailed investigation is made as to possible causes. This includes every possible offender such as drugs, cosmetics, foods, blood transfusions, serums, clothing dyes, shoes, infections, contraceptives, laxatives, and headache medicines. Many patients do not consider laxatives and headache remedies as drugs and fail to mention them. A history of previous allergy is important, since inhalant factors may be involved.

If the patient is suffering from nervous fatigue or has a distressing environment, hospitalization alone may effect a remission. Better control of diet and medications also adds to the advantages of the hospital sojourn. A bland, well-cooked diet similar to that described above is used, and a diet diary and symptom diary is kept. The same antihistamines used in acute hives should be tried, and here the long-acting types are best. I like to use hydroxyzine (Atarax®) in full dosage immediately followed by 25 mg. or more every four to six hours. This may be augmented by antihistamines and steroids, given in the same manner as in acute cases. Since treatment should be directed toward attaining a remission as rapidly as possible, it is well to use an adequate dosage of the remedies available at the beginning of treatment. Epinephrine in oil or suspension of epinephrine (Sust-Phrine) may be given daily. Intravenous calcium gluconate is sometimes used and may be given at the same visit. The patient should keep an accurate food and symptom diary during the course of the disease.

Skin testing for food allergy is notoriously inaccurate, and in urticaria this is especially true. Skin testing for inhalants may be of value in some cases if done during a partial or complete remission. It is surprising how frequently dermatoses are found to be associated with mold allergy. Hives seem to be especially common in pollen-allergic people. Housewives may occasionally respond very well to proper dosage of house dust extract. In giving injection treatment it has been found that it is always more likely to give aid if dosage is begun in a low dilution. As increase is made, one should use care to stop increasing the amount as soon as relief is obtained. All skin testing should be done by the physician or under his direct observation and should not be delegated to a clinical laboratory. It is very diffi-

cult to combat damage done by reports to the patient made by a laboratory technician who glibly informs the patient that he is allergic to most of the tests that have been applied. This has been done all too frequently.

It is well to remember that the skin is frequently a mirror of our inner feelings, of repressed hostility, fear, or anguish. Unsolved or unsolvable dilemmas of all kinds can very well be responsible for the continuation of a chronic urticaria. Time spent in listening to problems of these patients may be very rewarding indeed. After a remission occurs the patient should be very cautious in resuming normal living. It is well to reduce steroids first, then slowly add foods to the diet. It is wise to continue with sedative treatment with hydroxyzine for several weeks and keep in regular contact with the patient.

Eczema (Atopic Dermatitis)

Infantile eczema has been described elsewhere in this symposium and will not be discussed here. The adult type is generally similar with a few differences. A description of eczema is superfluous as it can best be said that "eczema looks like eczema." The adult type is more complicated because it is usually of long duration and has had more time to become complicated. Foods still may be a factor, but frequently inhalants have gained an important place. They must be treated if relief is to be expected. The affected areas have much more appearance of chronicity. Dryness and thickening of the skin are prominent and the habits of scratching are deeply entrenched.

Skin testing is of limited value in eczema. Food allergies will be discovered usually only by elimination diets or individual food testing. Treatment for food allergy is complete elimination of the foods from the diet. All suspected food allergies should be proved by demonstrating that ingestion of the food produces exacerbation of symptoms. Treatment of the inhalant allergy consists of injection of proper dosages of extracts of the inhalants. Dosages are usually smaller than that used for respiratory allergy. Small doses of staphylococcus toxoid have been found to be of use in some cases. One half unit is used as a beginning injection. Dosage is increased by increments of one half to one unit at each visit. Drugs may aid in lessening itching. Benadryl is as good as any of the antihistamines. An antiserotonin (Periactin®), 4 mg. every six to twelve hours offers much relief in some cases. Atarax and similar preparations may be of value. Steroids, of course, are now being used in many cases with varying degrees of success. Triamcinalone has been given preference for many skin diseases, but prednisone is also effective and is much less expensive. If there is any history of gastric distress, oral steroids should not be used. The dangers

of prolonged steroid treatment must be ever in mind. An argument in favor of parenteral steroids is that it is easier to discontinue a medication which requires injection with its accompanying discomfort than it is to wean a patient from a harmless-looking pill! Sudden discontinuance of steroid treatment is to be avoided to prevent the severe rebound reaction which is very likely to occur. The same dosage schedule used in urticaria applies, but the maintenance dose may have to be continued longer.

Topical Therapy

Topical therapy is also important. It is different in the acute, subacute and chronic stages.

Acute stage: Here the axiom, "The wetter the lesion, the wetter the treatment" applies. Normal saline, one-half normal saline, dilute Burow's solution, 1-1000 to 1-6000 potassium permanganate (for infected cases), and colloid baths all give satisfactory relief for weeping lesions. Application is made by soaking soft, lint-free cloths, loosely wrung out of the luke-warm solution. The packs are applied to the weeping area and the cloths resoaked and reapplied very 15 or 20 minutes or as frequently as needed to control symptoms. Treatment is carried on for one to two hours, discontinued for an hour or two, and then repeated. When weeping ceases, the subacute stage has begun and calamine lotions and pastes are in order. However, since the advent of the steroid creams, lotions, and ointments, the pastes are less popular.

In the chronic stage, ointments and creams containing forms of tar are used. In these may be incorporated various strengths of steroids, most of which may be just as effective if they are prepared in less than the usual strength. For instance, one-fourth per cent hydrocortisone cream or ointment may be about as effective as higher percentage steroid creams, especially if the cream has some tar and or anti-infective agent such as vioform or neomycin. One-fourth per cent Cor-Tar-Quin Creme is such a product. The effect of these preparations may be enhanced by placing an occlusive covering of Saran wrap or its equivalent over the treated area and leaving it all night or longer. Also much less cream is needed, thus creating a saving which is well appreciated by the patient. In extensive eczematous areas, cost may make the use of steroid preparations practically impossible. Here it is well to instruct the patient to try a cheap preparation such as half-and-half plain vaseline and carbolated vaseline. These may serve nearly as well, and the patient will be forever grateful for relief of the financial burden of steroids. Avoidance of soap is the rule, and bath oils such as Alpha-Keri® or Domol may help control symptoms, especially in winter. Colloid baths may also be tried with a cupful of laundry starch to the tubful. Or

one may use the more expensive oatmeal starch product, Aveeno®. Needless to say, wool or scratchy or linty materials should be avoided and the rooms should be kept as free as possible of dusts. Also, it is advantageous to avoid low humidity in winter by use of a suitable humidifier. Oral antihistamines may be tried, but they are usually disappointing in their effect. Benadryl or other sedative types are preferred. Periactin and Atarax have their place in some cases. Undoubtedly psychologic aspects of this disease have much importance and should be investigated.

Contact Dermatitis

This is said to be the most common of the dermatoses. It is found in the individual without allergic history perhaps as frequently as in allergic patients. Infants and children are less susceptible than adults. Sensitizing chemical (hapten) combines with body protein to form antigen, which reacts with antibody believed to occur on cells of the mononuclear series. This is not necessarily true in all contact dermatitis, however, as undoubtedly many may be a result of primary irritants. Poison ivy (*Rhus*) dermatitis is a classical example of contact dermatitis from weed resin or oil. In the susceptible patient, linear vesicular lesions appear about two or three days after exposure. If no further exposure occurs, the reaction is usually self limited. The time may be greatly shortened by use of steroids, and there is no better application for these drugs. Full dosage in combination with an antihistamine will give nearly immediate relief and cure may be expected to occur in about a week or less. Local treatment consists of wet packs as used in eczema. Steroid locally has little effect. When treatment appears to be failing, an effort is made to find where the patient is getting further contact with the weed, such as handling contaminated clothes or dogs or cats which have been allowed to prowl. Tools, baseballs, golf clubs and balls, or even toilet contamination is not unknown. The best protection is avoidance. Partial desensitization has apparently been accomplished by oral and parenteral use of *Rhus* extract, oral treatment being most practical. It is recommended that it be repeated yearly or, better yet, be given the year round.

Other plants may also produce dermatitis venenata from their resins, and testing kits are available for diagnosis. The material is dissolved in acetone and painted on testing area. Results are read in about 48 hours. *Warning!* Do not apply poison ivy extract to a known *Rhus* sensitive patient! A severe reaction may occur.

Soap and detergent dermatitis deserves special attention as it is rapidly on the increase, especially in women. Housewives are daily reassured through the medium of television that certain detergents and

soaps are harmless. They are said to be "kind" to the skin and act as wondrous emollients which transform red, rough hands to the soft, beautiful, and glamorous hands of a model. This, of course, is wholly untrue, and it is difficult to understand why such statements are allowed to be made. Repeated exposure of the skin to cleansing agents removes the acid mantle consisting of oil and perspiration, leaving it unprotected and readily susceptible to allergens to a much greater degree than is normal skin. Sensitivity to contactants may occur with comparative ease on such an insulted skin. Treatment of this type of contact dermatitis consists of complete avoidance of soaps, even the "non-allergic types." Complete hand protection is attained by the wearing of gloves. Light cotton gloves should be worn during the day. Rubber gloves are worn over the cotton gloves when the hands are required to be in contact with soap and water. Hydrocortisone in a mildly acid cream such as the Cort-Dome®, Aristocort®, and Cordran preparations are useful in control of symptoms. Disposable examining gloves are ideal for use in keeping the cream in contact during the night. It also conserves the cream. Protective treatment must be continued for months after apparent recovery. Recurrence is common; it is very difficult to wear rubber gloves while bathing a baby, so I am told! Nurses and pharmacists have an unusual tendency to develop contact dermatitis of the hands because of daily drug handling.

The possibilities of contact allergies are innumerable. There are several excellent monographs on the subject, which include useful descriptions of distribution patterns, frequency, and occupational situations. Nickel dermatitis is a common finding and may be produced by handling costume jewelry, electric

wiring, garters, bra strap clasps, safety pins, hair dyes, bleaches, eyeglass frames, silver work, insecticides, fungicides, and coins. Formalin also has a field of possibilities. It is a base for many plastics, cosmetics, and resins. Mercury compounds are far-reaching in distribution. Chromium and chromates offer unlimited possibilities.

There are about 75 basic testing materials which will handle most of the testing necessary. A contact diary kept for a few days may aid in narrowing down the testing requirements. The skin is prepared by cleansing the testing site with a good oil-dissolving liquid. I use acetone, but ether or benzine may be used. The material to be tested is applied either directly to the skin or to the gauze or cellophane of the adhesive patch. Stick the patch strip to the testing area and remove after 48 hours. Be sure to label each test carefully and instruct the patient to remove any patch which is causing severe itching or burning. This prevents skin damage in case the test material proves irritating or the sensitivity is so great as to produce a large local reaction or even a constitutional reaction. Care must be taken to use testing materials the same strength as that in the suspected contact, or as described in texts, as many chemicals are both sensitizers and primary irritants. Some allergens, of which neomycin is an example, are very slow in producing reaction, and patches must be left on longer than 48 hours. Also, if sensitivity is found to this drug and the source of contact removed, it may be many days or even weeks before the dermatitis subsides. Areas of eczema rather commonly become secondarily sensitized to drugs used in local treatment and thus become complicated diagnostic problems.

Real problems present themselves when the source of contact cannot be removed. We can then only hope tolerance or "hardening" may occur.

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Gastrointestinal Allergy

The Most Commonly Overlooked Allergic Problem

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SIGNS AND SYMPTOMS of allergy can occur from one end of the gastrointestinal tract to the other. If we include conditions which are of occasional allergic origin, there seems hardly any limit to the number of gastrointestinal allergic diseases. The following list includes those to be found in the allergy literature.

- Contact dermatitis of lips and tongue.
- Canker sores (aphthous stomatitis).
- Geographical tongue.
- Fetor oris.
- Pain (epigastric, lower abdominal).
- Distension and flatulence.
- Diarrhea, constipation, bloody stools.
- Vomiting.
- Perianal dermatitis and pruritis ani.
- Proctalgia.
- Ulcerative colitis, mucous colitis.
- Allergic celiac syndrome.
- Anorexia.

Obviously in a list of this kind, allergy is only one of many possible sources of trouble. But in the absence of other explanations, allergy should always receive serious attention as an etiologic factor. Many times it is only after careful allergic study that the role of allergy can be proved or disproved. This involves careful observation, repeated clinical trials, and long term follow-up of the patient. In a surprisingly large percentage of cases, the patient himself gives strong clues as to the role of specific foods.

Differential Diagnosis

Almost any disease process is capable of causing gastrointestinal symptoms, and some of these are serious. Certainly nothing will make the physician feel and look more ridiculous than to decide abdominal pain is of allergic origin when it is actually caused by appendicitis, or to believe a baby is vomiting from milk allergy when he actually has malrotation of the bowel.

Among some of the other common causes of gastrointestinal symptoms are:

Diarrhea: low grade infections (bacillary or amebic); celiac disease; cystic fibrosis; ulcerative colitis (may be allergic); achlorhydria; starch and sugar

(especially lactose and sucrose) intolerances; parasitic infestations; malignancies; parenteral infections.

Constipation: weak abdominal musculature; irregular toilet habits; Hirschsprung's disease; Cathartic and enema addiction; anorectal disease including fissures and hemorrhoids; neoplasms; chronic debilitating diseases; pelvic disease.

As is true of other diseases caused primarily by foods, detection and elimination of the offenders are the basis of treatment; however, other supportive treatment must sometimes be included. Presented here are some of the signs and symptoms of allergy occurring in the gastrointestinal tract.

Abdominal pain: any patient with abdominal pain is a candidate for special diagnostic study, there being so many intra-abdominal and extra-abdominal causes. No attempt will be made here to cover the multitude of possibilities.

Vomiting: a common allergic manifestation in infancy, but of far more immediate interest are such serious diseases as tracheo-esophageal fistula, diaphragmatic hernia, bowel atresia and malrotation, pyloric stenosis, and imperforate anus.

Miscellaneous: canker sores may be due to tooth brush trauma, viral infections, chemical factors in toothpastes and mouth washes, and dental prostheses.

Anal and perianal irritation may be due to pin worms (in both children and adults), hemorrhoids, toilet tissue trauma, congenital stenosis of the anus, mycotic infections, psoriasis and other dermatoses, and anal fissure and cryptitis. *Fetor oris* may be due to poor dental hygiene, adenoidal hypertrophy, atrophic rhinitis, infected tonsils, and a variety of constitutional diseases.

Important Gastrointestinal Allergy Syndromes

ALLERGIC ABDOMINAL PAIN

Undoubtedly the most common type of allergic abdominal pain is infantile colic. Most types of colic represent little more than a reaction of the newborn

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infant to the large digestive task that faces him. When, however, pain is almost constant and tends to last well beyond the traditional three months, allergy should be considered. Not uncommonly there is other evidence of allergy such as nasal congestion and anal excoriation. The improvement from milk elimination and other food manipulation is often startling.

In the older patient, recurrent abdominal pain is a common allergic symptom.¹ Common incidental findings are distension, constipation, foul breath, and flatus. The pain may occur in the gallbladder area, epigastrium, or either of the lower quadrants. Since these patients sense that their diet is at fault, they commonly develop the laxative habit.

ALLERGIC DIARRHEA

This type of gastrointestinal allergy is common in infancy and early childhood. If the other causes of diarrhea have been ruled out, the child is a candidate for allergy study. Not infrequently the child is found to be sensitive to a discouragingly large number of foods, so much so that it is difficult to arrange a balanced and satisfying diet. Fortunately the mother usually already knows many of the offenders and readily cooperates in running down the others.

ALLERGIC CONSTIPATION

Paradoxically, constipation often follows diarrhea, and a food which caused diarrhea in early childhood turns out to be the cause of constipation in the older child or adult. It is no accident that milk, boiled milk, and cheese are thought to be "binding," since this food is the most common cause.⁶ Many patients learn themselves that they are relieved of constipation and related gastrointestinal symptoms by avoiding milk, ice cream, cheese, and creamed foods.

CANKER SORES (APHTHOUS STOMATITIS)

The physician can make many friends by relieving this painful if fundamentally benign condition. Canker sores are common problems in the practice of allergy, and allergists feel that allergy is the common cause. The lesions are multiple and recurrent and are found chiefly inside the cul de sac of the lower lip. Common causes are: chocolate, orange and other citrus fruits, tomato, cinnamon, pineapple, and food colors. Such organic acids as vinegar probably cause canker sores by chemical action.⁷ This seems to be true of toothpastes, an especially common cause which should be given *first* consideration.

PERIANAL DERMATITIS AND PRURITIS ANI

As with oral allergy, anal allergy is both benign and exasperating. In girls and women, vulva irritation is also commonly found. Foods are the leading causes. Among these the most important are apple,

citrus fruits, food colors (carbonated drinks, Koolade, Popsicles), black pepper, tomato, and cinnamon. Contact factors include bath salts, underclothing (nylon), toilet tissue, and sanitary pads. No patient is more appreciative of relief than the sufferer from perineal allergy.

VOMITING

Allergic vomiting may be a direct manifestation of stomach irritation or represent a central cyclic type. Simple allergic vomiting is limited mostly to infants, and milk is the common cause.² If it occurs in later life, it is usually caused by a drug allergy or severe sensitivity to a food which the patient eats by accident. A recent example is a kindergarten teacher who ignored the warning of the mother and doctor as to feeding milk. Patients, even kindergartners, will rarely eat a food which they know causes vomiting. Cyclic vomiting is apparently a migraine equivalent and precursor.

ULCERATIVE COLITIS

Of all digestive diseases which may be caused by allergy, chronic ulcerative colitis is easily the most serious.³⁻⁵ In spite of the numerous reports as to the role of allergy, this possibility is seldom considered. When we consider the often grim prognosis of this disease, every sufferer should be given an allergic work-up. Not only foods but inhalants, especially pollens, have been implicated in this disease.

Treatment

As is true of other diseases caused primarily by foods, detection and elimination are the basis of treatment. Not uncommonly, especially in ulcerative colitis, other supportive treatment must be included. In general, patients must learn to avoid offending foods completely, but in some cases rotation of foods is permissible, especially in the case of minor offenders. Fortunately, patient cooperation is characteristically excellent in gastrointestinal allergy.

References

1. Andresen, A. F. R.: Gastrointestinal manifestations of food allergy. *M. J. and Rec.* 122:271, 1925.
2. Balyeat, R. M. and Pounders, C. M.: Pylorospasm due to allergy. *South. M. J.* 26:436, 1933.
3. Rider, J. A. and Moeller, H. C.: Food allergy in ulcerative colitis. Further experiences with intramucosal tests. *Am. J. Gastroent.* 37:497, 1962.
4. Rowe, A. H.: Chronic ulcerative colitis—allergy in its etiology. *Ann. Int. Med.* 17:83, 1942.
5. Rowe, A. H. et al: Chronic ulcerative colitis due to pollens with 6 case reports. *Acta Med. Scand.* 152:139, 1955.
6. Sewell, P.: Milk in gastrointestinal disorders. *Lancet* 2:1132, 1963.
7. Tuft, L. and Girsh, L.: Mucosal testing in patients with canker sores (aphthous stomatitis). *J. Allergy* 29:502, 1958.
8. Vaughan, W. T.: Allergic factor in mucous colitis. *South. M. J.* 21:894, 1928.

Pediatric Allergy

Some Allergic Problems of Infancy

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ALTHOUGH PEDIATRIC ALLERGY is now thoroughly integrated into the practice of pediatrics, it is disturbing to observe that many physicians still approach an ill infant with little or no concept that allergy may play an important role in the illness. And yet we have at our disposal a vast storehouse of information regarding allergic children which enables us to be realistic and practical in the evaluation of an infant with suspected allergic disease.

A good differential diagnostic evaluation should include knowledge of what is *not* allergy as well as what *is* allergy. One may feel reluctant to evaluate an infant without the benefit of complex laboratory tests or consultation with a specialist in allergy. But in practice, one need usually only think of the possibility of allergy and correlate appropriate physical findings with known allergic phenomena.

Incidence

How often will you see an infant with allergic manifestations? The frequency varies depending on the investigator. A reasonable estimate would appear to be between 15 to 20 per cent. Rapaport feels that 95 per cent of allergic children manifest some evidence of allergy before the age of four years. Clein found that 78 per cent of allergy symptoms appear before four months and 22 per cent before one month.

Characteristics of the Allergic Infant

Any allergic manifestation may appear in infancy. However, the most common are gastrointestinal allergy, eczema, and respiratory allergy. Not uncommonly the infant first develops colic or bowel disturbances, next eczema, and finally asthma and allergic rhinitis. This pattern presents an obvious hint to the physician: break up the allergic pattern as soon as it appears. Both Ratner and Glaser have shown that the infant with eczema has a far greater than average tendency to later asthma. Speer has more recently shown that this is also true of colic.

Gastrointestinal Allergy

Two of the great scourges of the early days of

pediatrics were intestinal infection and deficiency diseases. With the advent of pure food regulations and better understanding of nutrition, these problems have been conquered—at least in the civilized world. But digestive disorders have continued to be a problem. Many of these have been explained on either an enzyme deficiency or metabolic basis. Many more constitute food allergy, especially milk allergy.

From the early days of the practice of allergy, pediatricians have recognized the importance of allergic factors in diseases of children. In this article the authors point out areas in child care where a basic knowledge of allergy can be of great immediate and future importance.

DIARRHEA

The causes of diarrhea are many, and etiologic diagnosis is often difficult. The history is of vital importance, especially in terms of duration, nature of stools, and previous response to treatment. Infectious diarrhea must be considered, and stool cultures are indicated. These are available through the state health department. Holman has classified the cause of diarrhea with steatorrhea in infants and children. He considers cystic fibrosis, celiac disease (gliadin induced), and milk allergy as especially important. Undoubtedly many children who are put on allergy elimination diets improve because a sugar is removed from the diet of a child with a deficiency of certain sugar-splitting enzymes such as maltase, isomaltase, and invertase. Examination of the feces for a low pH is an important clue to dissacharide intolerance. It is interesting and important to know that the presence of blood in the stools is a strong indication of food allergy. In other types of diarrhea found in this part of the world, bleeding is unusual.

COLIC

Most manifestations of discomfort in infants are called colic by the relatives. The small infant who

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is having pain or such stress as hunger, reacts much the same to all of them. He cries, draws up his legs, and, in the process, frequently passes intestinal gas. Obviously the stress of hunger is relieved by feeding, but hunger is often not the real problem. There is always the possibility of faulty feeding methods, especially in the case of the first baby. Almost any disease may cause crying, and we must think especially of ear pain, anal fissure, fractured clavicle, sore throat, or cystitis.

Where crying is beyond the amount to be expected in the new infant, when it is unusually severe and prolonged, and when other causes have been eliminated, food allergy should be suspected. Suspicion is especially strong if there are such other evidences of allergy as nasal congestion, loose stools, anal excoriation, excessive sweating, and a strong bilateral family history of allergy.

VOMITING

When caused by allergy, vomiting is usually of the projectile type. This is, of course, also true of congenital hypertrophic pyloric stenosis and such sources of intestinal obstruction as malrotation, atresia, and diaphragmatic hernia. It rarely occurs in breast babies and always stops if the child is given sweetened water. A scout film of the chest and abdomen is useful in ruling out organic causes.

CONSTIPATION

Allergic constipation is more characteristic of the older infant and child than of the allergic infant. It not uncommonly follows diarrhea and may at times alternate with it. Since colic is also common in allergic infants, the family often blame the concomitant constipation for the abdominal pain. As noted above, anal excoriation is common in allergic infants. The combination of inflamed, inelastic anus and hard stools is a leading source of anal fissure.

TREATMENT OF GASTROINTESTINAL ALLERGY

As in other allergy caused by foods, the treatment of gastrointestinal allergy in infants involves food elimination. The availability of a half dozen brands of soy milks tells us not only that cow's milk is the common offender but that soy formulas are the usual substitute. Patients who do not tolerate these may be given meat base milks such as Gerber's meat base formula (MBF) and Lambase formula. Cereals are rather common causes of trouble, even the supposedly hypoallergenic rice cereals. Vegetables are usually well tolerated and are useful in satisfying the infant's hunger and nutritional needs.

One thing needs very much to be said about food

allergy in infancy. One can never be sure that the sensitivities are "outgrown." The allergist is very much interested in an early history of food allergy and suspects that the asthma or headache of the ten-year-old child may be related to the milk which gave him so much trouble in infancy.

Eczema

Eczema may be of allergic origin, may be of partial allergic origin, or may be due to other causes. No two classifications quite agree, but that of Haytatt is in line with current thinking. He includes the following types under eczematous dermatitides: allergic eczema (atopic dermatitis), subacute and chronic infectious eczema, xeroderma, seborrheic dermatitis, cutaneous moniliasis, tinea corporis, nummular eczema, and the pruritic varieties of psoriasis. Hill emphasizes the common interrelationship between allergic factors and seborrhea in eczema. This may also be stressed in other types of eczema. Nummular eczema, for example, is thought by many allergists to be of allergic origin.

The limitations of this paper do not allow for a thorough discussion of eczema. This is well covered in all allergy and pediatric texts as well as in innumerable papers. Suffice it to say, that it is not generally of purely allergic origin and must be approached as a disease of multiple etiology. One of the most important of these etiologies is infection, and here we need remember the fact that these patients are not to be vaccinated for smallpox until well after their skins have entirely healed. Other immunizations are not contraindicated.

The Respiratory System

In infancy, respiratory allergy is of first importance. It is involved in the pressing problem of recurrent respiratory disease. It is specifically responsible for asthma, seasonal and perennial rhinitis, serous otitis media, and certain cases of croup.

ASTHMA

It is now well established that the old concept that asthma does not occur in infancy is false. It is true that the picture is often clouded and complicated by infection, but much of what is called bronchiolitis and asthmatic bronchitis is really allergic asthma.

The differential diagnosis between asthma and respiratory infection with wheezing is not easy, largely because both allergy and infection may be involved in the same illness. In general, bronchitis is characterized by severe cough, fever, coarse to-and-fro wheezing, red throat, elevated white count, and malaise. In allergic asthma, the wheezing is fine and

expiratory. Cough, fever, and other signs of infection are minimal or absent. In case of doubt, infection takes precedence. It needs immediate care, while allergy can be worked out later.

ALLERGIC RHINITIS

A blocked nose is much less alarming and serious than a tight chest, but is nevertheless disturbing to infant and parent alike. In persistent nasal congestion, allergy is the first thought, although the possibility of foreign body, adenoidal hypertrophy, and congenital choanal atresia must also be considered. Infants seldom have an appreciable increase in nasal mucus.

Great interest has been raised in recent years in a common cause of hearing loss, *serous otitis media*. Although allergy was at first cautiously advanced as a possible cause, it is becoming increasingly clear that it is the most common if not the definitive cause. These conclusions have been drawn because of its common association with allergic rhinitis and by the success in allergic treatment. It is an important and easily overlooked disease of allergic infants.

RECURRENT RESPIRATORY DISEASE

One of the most important and difficult phases of pediatrics and allergy is the problem of recurrent colds, sore throats, bronchitis, and pneumonia. The pressure on the physician is especially great in recurrent pneumonia. Although considerations of exposure and general susceptibility to disease may explain some of these cases, many are found to be of allergic origin. Especially in the face of other evidence of infantile allergy, the pediatrician and family doctor must give serious consideration to an allergic basis to recurrent respiratory infection.

MANAGEMENT OF RESPIRATORY ALLERGY

The specific management of respiratory allergy at any age depends on careful allergic investigation. To a large extent, children with this problem do not require consultation with a specialist. Notorious inhalants like cats and dogs, feathers, household molds, house dust, and tobacco smoke should be avoided. The common food offenders may be eliminated in

turn. When symptoms are recurrent, it is often difficult to determine when a food has been identified as a source of trouble. Here the physician should remember the gastrointestinal and constitutional symptoms of allergy. If he is checking milk, for example, he will have the mother note if such symptoms as diarrhea or constipation, excessive sweating, abdominal pain, facial eczema, and stuffy nose subside during milk elimination. When milk is under heavy suspicion, it is wise to remove it for *two full months* so that an observation may be made as to his freedom from recurrent respiratory symptoms during this time.

Ephedrine remains one of our most useful drugs for wheezing, and may be given in such suspensions as Tedral® and Quadrinal. Epinephrine in doses of 0.05 to 0.10 ml. is used for severe wheezing. Rectal solution of aminophylline may be used in conjunction with ephedrine. For a 15 lb. infant:

R Aminophylline 0.5 gm
Water 120.0 ml
S: 1/2 oz. by rectal syringe q 8 to 12 h.

Unmedicated steam is useful in most cases of allergic or combined allergic-infectious respiratory disease. However, it will definitely make some patients worse! And we need always remember that the patient is more important than his disease. We must give proper attention to fluid balance, infection, and his other needs.

References

1. Buffum, W. P.: Asthma in infancy. *Ped. Clinics of North America*, Aug. 1959.
2. Clein, N. W.: Allergy in infancy: the first allergic manifestations. *J. Allergy* 10:253, 1939.
3. Glaser, J.: *Allergy in Childhood*, Springfield, Ill., Thomas, 1956, pp. 3-9.
4. Hayett, M.: Eczematous dermatitis of infancy. *Med. J. Australia*, 46:521, 1959.
5. Hill, L. W.: Children with eczema. *Ped. Clinics of North America*, Aug. 1959.
6. Pounders, C. M. in Speer, F.: *The Allergic Child*, New York, Hoeber, 1963.
7. Rapaport, H. G.: The allergic index. *Ann. Allergy*, 18:179, 1960.
8. Ratner, B.: A possible causal factor of food allergy in certain infants. *Am. J. Dis. Child.*, 36:277, 1928.
9. Speer, F.: Colic and allergy. *Arch. Pediat.*, 75:271, 1958.

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Hyposensitization and Avoidance

The Treatment of Inhalant Allergy

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INHALED ALLERGENS are responsible for more allergy in man than any other substances. They are responsible, also, for the most severe manifestations of allergic diseases, seasonal allergic rhinitis and asthma. Airborne allergens are, on occasion, important factors in the production of eczema, urticaria, and migraine. Multiple sensitivity to inhalants is the rule, and those substances most frequently encountered in quantity are responsible for the most common allergic diseases of the respiratory system.

Allergens capable of producing inhalant allergy are of organic origin. Inorganic dust may, however, precipitate symptoms of allergy through mechanical irritation of an allergically inflamed mucous membrane. Similarly various irritating fumes may precipitate attacks in the allergic individual. The antigen must have certain characteristics to be a factor: (1) It, or at least portions of it, must be soluble in the mucus of the respiratory mucosa. (2) It must be of a particulate size to reach the mucous membrane. (3) It must be in a quantity to disturb the allergic equilibrium of the individual. Common substances meeting these requirements are pollens, mold spores, house dust, grain dust, hay dust, occupational dusts, and animal danders.

Pollens

The successful management of allergic rhinitis depends upon a thorough knowledge of the botany of the area. Only those plants in sufficient number and which are wind pollinated are responsible for this disease. Many patients will show reaction to pollen not present in their environment. With the present day mobile population, positive skin test reactions may be shown to pollens not present within several hundred miles. One must not treat skin test reactions. It is common, for example, to see positive skin test reactions to grass in an individual with no clinical symptoms during the grass pollen season. The pollinating time of each hay fever plant must be recognized by the physician in order that the specific pollen causing symptoms can be determined and the proper antigen used in hyposensitization. Russian thistle pollen sensitivity, for example, is not treated by us in patients living in or east of the Flint Hills

nor do we treat patients west of this area and north of Salina with rough marshelder. It is very common to see patients living in these areas who are sensitive to these two pollens. They might, under certain conditions, have clinical symptoms from these pollens, but the conditions allowing this would last perhaps only a few hours or only a day. There is with many

Satisfactory treatment of inhalant allergy depends upon a thorough knowledge of the pollens, molds, and dusts causing symptoms. Thorough and detailed instructions in avoiding the offending allergens must be given. Hyposensitization with the appropriate antigen is indicated with care that antigens are not included to which the patient is not clinically sensitive. The choice of extract and method of hyposensitization depends upon the experience of the physician and the method which most nearly suits the needs of the patient.

plants an overlap of pollination and onset of symptoms which may help in determining clinical sensitivity. In the area surrounding Topeka there is a period which is relatively free of pollens commencing in late June and ending in late July. If symptoms of pollinosis develop in late July it is usually due to the pigweed group of plants. If the patient has a subclinical sensitization to this group of pollens and clinical sensitization to the ragweeds and his treatment is less than satisfactory with ragweed pollen extract, the pigweed group of pollens should be included in his treatment the following year as they are undoubtedly contributing to his over-all allergic load.

Molds

Allergy to airborne molds is seen in approximately one third of all patients reporting for treatment of inhalant allergy. The molds may be responsible for both seasonal and perennial symptoms. Seasonal mold allergy differs from pollen in that the symptoms usu-

* From the Topeka Allergy Clinic.

ally last from early spring until after a hard freeze in the fall. Peaks in the symptoms occur in the summer about harvest time and again in late summer and early fall. They may occur at other times when individuals are around hay or grain dusts or in persons who have difficulty when the yard is mowed. Eye symptoms are not usually present in pure mold allergy. Almost always a positive skin test reaction to mold extract is indicative of clinical mold sensitivity.

Tests with extracts of 16 to 18 molds should be done on all persons reporting for inhalant allergy. It is important to know the concentration of the various molds in an area in order that a proper mixture of the extracts can be prepared for hyposensitization.

Dust Allergy

Environmental and occupational dust allergy is accountable for a large number of patients with allergic rhinitis and asthma. Perhaps the most common allergy of all is house dust, and this is not surprising as each individual is exposed daily to varying quantities of house dust antigen. The house dust allergic patient may be seen first because of seasonal hay fever. The symptoms of pure house dust allergy are usually gradual in onset and it is not often seen until nasal blocking is rather severe. The patients have become accustomed to the nasal stenosis and moderate rhinorrhea and think of it as a normal state of affairs. Occupational dusts such as those encountered in agriculture and industry are usually not difficult to diagnose. The nature of industrial dusts must be known before satisfactory treatment can be achieved.

Avoidance of Inhalants

The treatment of inhalant allergy should be directed toward the avoidance of the offending agents. Thorough instructions in methods of decreasing exposure to house dust must be given. Many agricultural dusts and molds may be avoided by the use of portable cabs on harvesters and pickers and by the use of dust masks in other areas. Environmental and occupational dusts are frequently subclinical but must be taken into consideration to achieve satisfactory response in the treatment of pollinosis and mold allergy.

Hyposensitization

Specific treatment of inhalant allergy is directed toward increasing tolerance. This is done by hyposensitization to the offending agent or agents. Care must be taken to insure that substances to which the patient is not sensitive are not included in the hyposensitization injection. Evidence points to the possibility of creating sensitivity by the injection of antigen to which the patient is not already clinically allergic. The allergic patient should not be treated on the

basis of skin test reactions alone. Only those antigens to which the patient is clinically sensitive are to be used.

The choice of the type of injection therapy will depend upon the extracts used and the experience of the doctor. The results of therapy are from fair to excellent in upward of 80 per cent of all patients treated. About 10 per cent are not helped by injection therapy, apparently because of a faulty immune mechanism. Avoidance and medication is the only course left for them to obtain relief.

The injection of aqueous extract is the original and still the most commonly used method of treatment. Generally it is felt that preseasonal injection therapy is most desirable and the patient is given increasingly large doses of antigen, usually on the basis of an injection each week. Because most allergic people have multiple sensitivities, they are usually given treatment with a maintenance dose of antigen perennially which is increased on a preseasonal basis. At the onset of a pollen season, most allergists decrease the amount of extract to about one fifth of the top preseasonal dose. This amount is given as the maintenance dose at intervals of every two to four weeks until the preseasonal buildup is begun.

Coseasonal Treatment

Patients appearing for the first time for treatment at the onset of a pollen season may be treated by small doses coseasonally. The amount of extract used in treatment may be determined by skin titration with serial dilutions of extract. The endpoint is the smallest amount which gives erythema with pseudopodia. The dilution of the extract used in a moderately sensitive patient is usually in the range of 1:10,000. Injections of 0.03 ml. to .1 ml. of this dilution are given daily for three to four days intradermally. If satisfactory relief is obtained the interval between injections may be increased, but almost never will the interval be more than a week. With the increase of pollen in the air as the season progresses, the amount of extract may need to be increased.

When coseasonal treatment results in complete relief, the patient is given a specific date to return for treatment the next year which will coincide with the onset of the particular pollen season. Preseasonal treatment almost universally gives more satisfactory relief of symptoms than coseasonal treatment.

Emulsion Treatment

Over the past ten years methods have been developed designed to prolong the response to each injection thereby necessitating fewer visits for therapy. A water in oil emulsion has been widely used. Originally emulsions were made with Falba (a product

made from sheep's wool) but emulsions were not stable for a long period, and tended to become rancid and irritating. A more satisfactory vehicle for the preparation of water and oil emulsion was made using a highly refined mineral oil (Drakiol) and an emulsifying agent (Mannide Mono-Oleate in the proportion of 65-35 respectively). With this preparation, emulsions can be made which are stable, and large single doses of extract can be employed. It is frequently possible to give in a single dose more protein nitrogen units than could be given in the total multiple injection of aqueous extract employed in preseasonal treatment. Systemic reactions, which occur infrequently, are usually delayed several hours but are much more easily controlled than reactions from aqueous injections. Originally this method was called the "one shot" treatment of hay fever. One injection given at the proper time in many patients resulted in satisfactory relief of symptoms. More commonly a so-called priming dose in small volume consisting of about one tenth of the total is given six to eight weeks before the onset of the season. From two to four weeks prior to the pollen season the main injection is given which usually would amount to from 5,000 to 10,000 protein nitrogen units. The results of emulsion therapy appear to be slightly better than with aqueous extract. Inherent in the use of emulsion there exists, because of the slow absorption, the irritating qualities of the extract or vehicle and possibility of cyst or abscess formation. Also, because of prolonged irritation, calcified nodules may occur at the site of injection. Because of these reactions, emulsion treatment is falling into disuse.

Since the beginning of hyposensitization therapy, many improvements have been made in the quality of extracts. Experimentally it is possible to separate various fractions from ragweed pollen. Fractions which produce high antibody titers may be made. Anaphylactoid fractions may be removed, and theoretically it should be possible to give large amounts of extract without fear of systemic reactions. Although the use of these extracts producing high mea-

surable antibody titers have been studied, no appreciable increase in the relief of the symptomology of pollinosis has been demonstrated over conventional extracts.

Precipitated Antigens

It has long been recognized that the longer an antigen can be kept in contact with the antibody and enzyme-producing systems, the higher the antibody titer and enzyme activity results. One method to accomplish long contact is with emulsion. Another method is with precipitated antigens, which are more slowly absorbed and therefore result in fewer systemic reactions. Available as a commercial extract is a pyradine alum precipitated antigen (Alpyral). This antigen contains not only the water soluble but also the resin antigen or oil soluble fractions. Resin fractions of pollen are probably responsible for the eye symptoms in pollinosis and contact dermatitis due to pollen. With this antigen fewer injections are required and the interval between injections may be longer. Satisfactory response may be obtained by seven to eight injections given at intervals of about 14 days on a preseasonal basis. Pyradine alum precipitated extracts are also very satisfactory in coseasonal therapy. It is given at appropriate intervals subcutaneously or intramuscularly according to the patient's response and needs.

We have, for the past year, been using Alpyral extracts suspended in sodium alginate (after Scherr). This combination, upon injection, absorbs calcium from the tissues at the site of injection causing gelation, which further increases the absorption time. Several antigens may be combined in a single injection. The amount of the antigen may be increased or decreased according to the season. Some local swelling has been seen which may necessitate decreasing the amount of some of the antigens. This type of injection is given once a month and the response is as satisfactory as with other methods of treatment. The combination of Alpyral and sodium alginate in small volume given intramuscularly is very satisfactory also for coseasonal treatment.

KANSAS BASIC SCIENCE BOARD EXAMINATION

The Kansas Board of Basic Science Examiners will give examinations in the subjects of anatomy, bacteriology, chemistry, pathology, and physiology on June 4-5, 1965, at the University of Kansas Medical Center, Kansas City, Kansas. Satisfactorily completed applications for examination should be submitted at least 30 days prior to date of examination. Application forms and other information can be obtained from Dr. Elbert W. Crandall, Secretary, Kansas Board of Basic Science Examiners, Pittsburg, Kansas 66764.

Drugs and Allergy

Although a Useful Drug Is a Great Friend to Man, It Also May Be His Deadliest Enemy

J. H. ROHR, M.D.,* and

J. P. SCHEUREN,** *Shawnee Mission*

DRUGS ARE IMPORTANT in allergy practice both as potent and dangerous allergens and as indispensable therapeutic agents. Of the many, many drugs now available, most are entirely safe except for the rare individual who reacts to them in the same hypersensitive manner. Such drugs as aspirin and phenobarbital have been used for many years with safety and effectiveness for relief of millions. Yet the rare individual who reacts with dermatitis or asthma in an allergic manner to these common drugs illustrates that "one man's drug is another man's poison." However, common drugs (no more than common foods or other potential allergens) certainly should not be taken off the list of those essential or important in daily life because of the rare sensitive individual. It is obvious that the action of a drug or other allergen is not determined entirely on the basis of its basic pharmacological or nutritional value but upon the person who is sensitive to it.

Drugs in Treatment of Allergy

ANTIHISTAMINES

Compressed tablets, uncoated of chlorpheniramine maleate (Chlor-Trimeton®), U.S.P. 4 mg., are probably the tablets of choice for effective, pure antihistamine action with minimal side effects. This is used primarily for nose congestion, relief in "sinus headaches," and to minimize rhinorrhea which often precedes an asthmatic attack. Antihistamine action is an aid in bronchial allergy also, and is not fraught with danger³ as previously reported. Long-acting preparations containing 12 mg. are used extensively and may be used in those patients with average gastrointestinal absorption rates. However, it is preferable in general to use the more dependable straight preparations.

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IN COMBINATION WITH SYMPATHOMIMETICS

Antihistamines in combination with phenylephrine or phenylpropanolamine are quite useful in liquid form for children or capsule form for adults. Examples are Napril, Co-Pyronil®, and Dimetapp®.

Several of the old-time antihistamines are still used

It is the purpose of this paper to outline the present knowledge of the best and safest drugs to use in the treatment of allergy and to point out common drugs which are the most likely to cause reactions.

with excellent results by many patients. For example, Benadryl®, Pyribenzamine®, and Phenergan®. Pyribenzamine may be used in the plain or long-acting tablet, or in liquid and injectable forms. For patients not made sleepy or irritable by these drugs, they are very useful. Benadryl in capsule, liquid, or injectable form is excellent for its antihistamine activity and in addition for its good sedative effect in vertigo, sea-sickness, and car-sickness. Phenergan has good antihistamine activity and is one of the strongest and safest sedatives to use for allergic patients. A few patients can tolerate daytime use but ordinarily it is reserved for bedtime. It is available in various sized tablets and in liquid and injectable forms.

Antiserotonin (Periactin® tablets or liquid) may be useful in urticaria and Sansert® in migraine headache prevention where serotonin rather than histamine is symptom-producing.

ANTI-INFECTIVE DRUGS

This drug class is discussed secondly because of its vast importance in upper and lower respiratory allergy, skin allergy, and other hypersensitivities. Asthmatic bronchitis, chronic allergic and infectious sinusitis, and asthma with chronic bronchitis and emphysema compose a very large per cent of allergy practice. The safest, most stable, least expensive, and

most generally useful anti-infective is Madribon® tablets, 0.5 gm. (or its half-strength chewable form), and the liquid suspension containing 0.25 gm. per teaspoon. Madribon is effective for 90 per cent of infections whether they be chronic sinus, rhinitis, acute bronchitis, chronic bronchitis, and emphysema. In clinical allergy it has a lower incidence of side-effects than the antibiotics. It avoids the hazards of fungal overgrowth and photosensitivity. We have used it for years with practically no incidence of hematologic or systemic sensitivities.

Novabiacin 250 mg. capsules—(Cathomycin® or Albamycin®)—is a useful antibiotic because of its effect on more resistant organisms. It also is less responsible for immune disease and photosensitivity reactions from poor quality tetracycline and Declo-mycin®. Other anti-infectives may be indicated. Novabiacin plus Madribon will be effective in more resistant epidemics. Chloromycetin® will rarely be necessary; for short periods it is an extremely useful drug. Chloromycetin in 250 mg. capsules or Chloromycetin Succinate by injection is used. Penicillin may be indicated but is rarely necessary. The hazards of penicillin are such that it is rarely indicated in allergic patients. Its danger cannot be over-emphasized. Fungizone® and Nystatin are useful antimycotics.

BRONCHODILATORS

Epinephrine, solution 1 to 1000 (Adrenalin), is the emergency drug of choice. It is indicated in angioedema, generalized urticaria, systemic reactions of any kind, severe dyspnea with secondary bronchitis, and ordinary allergic bronchospasm. Small doses are preferable to large ones and allow frequent injections. The usually adequate doses are 0.10 to 0.20 ml. There is a growing tendency to mix epinephrine with phenylephrine (Neo-Synephrine®) to lessen the cardiac strain. This is true for children or adults. Orally, ephedrine sulfate or hydrochloride $\frac{1}{8}$ to $\frac{3}{4}$ grains (8 to 45 mg.) is still the most widely used bronchodilator. For the patient with annoying cardiovascular effects from ephedrine, $\frac{1}{8}$ gr. doses are often effective, while $\frac{3}{8}$ gr. is tolerable by most adults and older children. The U.S.P. liquid is suitable for young children. This drug is also useful in hypodermic injection form, usually 0.5 ml. of the $\frac{3}{4}$ gr. ampule. Giving a dose of $\frac{3}{8}$ gr. is preferable to the standard $\frac{3}{4}$ gr. per ampule. There is also a growing tendency to use the less stimulating phenylephrine (Neo-Synephrine) and phenylpropanolamine (Propadrine). Intravenous aminophyllin is a very useful emergency bronchodilator. Oral Elixophyllin liquid may be as helpful. Elixophyllin (20 per cent alcohol) should not be used for any patient sensitive to or addicted to alcohol. Aminophyllin can be used

as a $3\frac{3}{4}$ gr. (0.25 gm.) or $7\frac{1}{2}$ grain (0.5 gm.) suppository. Compressed tablets or coated tablets are of little use because of the small dosage and poor absorption. Aminophyllin IV must be injected slowly over a four minute period. The tendency is to use plain aminophyllin in suppositories for either children or adults, because the barbiturate combinations give the hazard of hypersensitivities. Maximum total 24-hour dosage is most important and must be watched to avoid aminophyllin toxicity.

DERMATOLOGIC PREPARATIONS

The skin is an organ which responds to local treatment and is subject to systemic absorption of drugs. Frequent indications for drug therapy are acute and chronic urticaria, eczema, seborrheic dermatitis, nummular eczema, cutaneous manifestations of infection, and such systemic auto-immune diseases as lupus. Nivea is an old-time emollient of considerable benefit for skin softening. Of current usefulness and popularity are the steroid lotions, creams, and ointments, of which Cort-Dome® one-eighth per cent is the most useful and least expensive. Other preparations of reputable American pharmaceutical firms are probably of equal effectiveness. The increased knowledge of yeast-mold fungi etiologic agents of dermatoses makes Mycolog® ointment a most useful preparation. It contains nystatin, neomycin, and a corticosteroid.

In many chronic severe dermatoses the covering of the part with polyethylene (such as the disposable physician's glove or ordinary household "Baggies" or Saran wrap) is helpful. It is applied at bedtime and removed in the morning. They are best secured by cellophane to avoid the hazard of tape. Powders, as a rule, are ill suited for allergy patients. They are both drying to the allergic skin and allergenic in inhalant nasal and chest allergy. In general ointments are preferable with dry skin eczema, and creams may be used in those without excessive dryness. In acne, seborrheic dermatitis, and the general body skin disorders, it is preferable to use a soap with hexachlorophene such as Dial.

EXPECTORANTS AND ANTITUSSIVES

Water is the drug of choice for loosening bronchial mucus and the correction of cellular dehydration. Water, orally, by intravenous administration, aerosol inhalation, or intermittent positive pressure aerosolization is used to loosen mucus and correct cellular dehydration. In severe, acute, or recurrent episodes the oral fluid should be carbonated drinks, tea, coffee, or water. Milk is not used. Room temperature of the fluid is important. Iced drinks or cold drinks will usually increase bronchospasm. Drug expectorants

containing ammonium chloride and citrates are best and safest. These should be in non-alcoholic solution and may be combined with antihistamine and phenylephrine, with or without antitussives.

HORMONES

Endocrinology has regained major importance in the treatment of allergic disorders. At the head of the list are the corticosteroids. A safe and effective steroid is prednisolone 5 mg. compressed tablets U.S.P. These can be used from one-half tablet to six tablets daily in acute, severe cases or in the maintenance of anti-inflammatory effect in chronic bronchitis and emphysema. Since they do not begin to act for several hours, adrenalin is still the emergency drug to be given first. It is then followed by the slower acting cortisones and antihistamines. The most diligent control of patient purchase of cortisones must be maintained so that unlimited use is prevented. Currently the best way to use cortisones over long term is to give most or all of the daily dose in the morning since the adrenals put out more natural corticosteroid at night. Cortisone should be discontinued five days per month and corticotropin (ACTH) used for those five days. There may be some value in long acting anabolic steroid such as nandrolone decanoate (Deca-Durabolin®) once a month. Other hormones, more for metabolism balance than intensive single hormone therapy, involve estrogen and progesterin combinations, testosterone, thyroid, and antidiabetic medication. ACTH is used in the 80 U gel in 40 U or 80 U doses.

NOSE DROPS, SPRAYS, EYE DROPS AND SOLUTIONS

An aid to naso-sinus decongestion is aqueous Neo-Synephrine (phenylephrine) one-fourth to one per cent in drop or spray form. Many allergists, fearful of nose drop habituation, use them very little.

For the burning, itchy eyes of seasonal pollen hay fever and chronic allergic eye irritation, the following prescription is good: adrenalin, 1/1000, 2 cc., two per cent tycaine (or similar local anesthetic), 2 cc., boric acid, 0.25 gm., distilled water qs 15 cc., Sig.: Dispense in brown dropper bottle "Allergy eye drops, one or two drops in each eye, prn q 1 to 6 hrs." "Note: Discard solution if it turns brownish." Occasionally antibiotic, antimycotic, cortisone, and mucolytic eye or nasal therapy is indicated (e.g. Neosporin®, Polysporin®, Hydetrasol®). Cortisone should never be used if a local or systemic virus infection exists, especially herpes simplex.

SEDATIVES, HYPNOTICS AND TRANQUILIZERS

The following are at the moment considered the safest and most effective for the allergy patient:

Chloral hydrate as a hypnotic, capsules $3\frac{3}{4}$ grains (0.25 gm.) or $7\frac{1}{2}$ grains (0.5 gm.) (Somnos) and liquid preparations. Phenergan is a good sedative. It is in the tranquilizer group, but without its bad effects. Benadryl is a good sedative. Phenergan may be injected hypodermically in place of the tranquilizer. A good day-time sedative to use in place of tranquilizers or barbiturates is Carbronal, 5 grain compressed tablets.

AEROSOLS

This method of administration of oxygen, air, water, and drugs and continuous or intermittent positive pressure aerosolization offers advantages in the treatment of naso-sinus and lung allergy. The therapeutic effects are local and systemic so that there is also skin and general systemic benefit from cellular hydration and antibacterial and antimycotic drugs. For nasal spray administration; plastic bottle or intermittent (Bennett IPPB machine) or the DeVilbiss ultrasonic apparatus may be employed with bronchospastic asthma. Chronic bronchitis and emphysema will benefit from Isuprel® by intermittent positive pressure with the inhalation therapist. Antibiotics (e.g. Terramycin® 50 mg.) and mucolytics or detergents (Tergemist®) may be added. Since it has been found that much of the medication stays in the cheeks with the mouth closed about the inhaler, it is better to open the mouth to get more epinephrine, Isuprel, or phenylephrine down into the bronchial tree.

The humidity control at the home is important. In the summer, humidity is too high both in open homes and closed homes with air conditioning. Dust precipitation and humidity reduction are indicated. In the winter with excessive heat, our humidity drops to almost zero, being dryer than the Sahara Desert. Then some means of raising humidity is important, whether it be open pans of water or portable or central humidifiers. The medical consultants of Honeywell and Bryant are sources of proper information for home environmental control of dust and humidity.

Drugs in the Cause of Allergy

DRUG REACTIONS

The immediate anaphylactic shock type of reaction may be caused by drugs (penicillin), foods, tetanus serum, insect stings, and many other agents. It is the most pronounced emergency of medicine.⁴ These reactions with fatalities are best illustrated by the too frequent deaths from penicillin. In the strict practice of allergy, including its infectious disease companion, it is rarely necessary to use penicillin. Therefore, it should be avoided at all costs, despite the convenience, low cost, and habit pattern in the use of this drug.

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Allergic Emergencies

Management of Dangerous Situations Which Any Physician May Face

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ALLERGIC EMERGENCIES are frightening to all of us. An injection of penicillin or tetanus antitoxin may cause sudden death. In the United States more people die of insect stings than from rattle snake bites.⁶ An aspirin tablet may cause sudden laryngeal edema, hives, or severe asthma. A cookie containing peanuts almost caused a fatal anaphylactic shock in a physician's young son. Milk ingestion has accounted for anaphylactic deaths in infants. Corticotropin (ACTH) and antihistamines have caused severe angioedema and hives. Mumps vaccine and other vaccines derived from egg embryos can cause dangerous reactions in egg-sensitive patients. Asthma, hives, angioedema, and fever have been known to follow overdoses of allergy extracts. Blood transfusions have been followed by severe anaphylaxis and death. Intravenous pyelograms have caused shock in patients sensitive to iodides.

In order to manage the allergic emergency, it is necessary to understand the mechanism of its occurrence.² In the allergic individual, there is an antigen-antibody reaction that causes a release of histamine and other mediators into the system. Histamine dilates the capillaries and arterioles. This dilatation with its accompanying increase in vessel permeability results in a loss of plasma fluids through the capillary wall into the extracellular spaces with reduction of blood volume. This is one of the elements of histamine shock. The escape of fluid into the extracellular space causes edema and resultant urticaria and angioedema.

In asthma there is contraction of the smooth muscles of the bronchioles with resultant bronchospasm. There is also increased secretory activity of the mucous glands, which produces large amounts of thick, tenacious material.

All these reactions may take place with the most alarming suddenness, throwing the patient into acute shock. This may occur within seconds after exposure to an antigenic agent to which the patient is sensitive. It may follow an injection, oral ingestion of food or drug, or insect sting. Inhalations of animal danders have on rare occasions brought on reactions of almost this severity.

In serum sickness, the emergency is not so great.¹ The longer it takes for symptoms to develop the less

life-threatening it becomes. However, the urticaria, angioedema, joint and gland swellings, and fever are indeed very uncomfortable. Immediate treatment is indicated when a patient displays or threatens to display any evidence of anaphylactic shock. The importance of this point of view is exemplified in the fact that Speer's new text, *The Allergic Child*, has an

Many allergic emergencies can be eliminated if the measures of prevention presented here are followed. However, if such emergencies do occur it is hoped that the procedures outlined in this paper will be helpful.

outline of immediate care of allergic emergencies within the back and front covers of the book.

Treatment of Anaphylactic Shock

(1) Lay patient down; elevate feet to overcome cerebral ischemia.

(2) Apply tourniquet above site of injection or insect sting and inject 0.20 to 0.30 ml. of epinephrine (Adrenalin) into the site. Inject the same dose into the other arm, repeating if necessary in ten minutes.

(3) Inject antihistamines intravenously, Pyribenzamine®, 50 mg., Benadryl®, 50 mg., Chlor-Trime-ton®, 20 mg., or other available antihistamine. Most cases will respond to the above measures and further treatment is unnecessary.

(4) If profound vascular collapse occurs or if there has been no response in the first ten minutes, start 1,000 ml. of five per cent dextrose in saline. To the vial, add a 4 ml. ampule of levarteranol (Levophed®). Begin the flow rate at 2 to 3 ml. per minute and adjust the rate of flow according to blood pressure response. Try to maintain the pressure at 100 mm. Hg. Discontinue only when the blood pressure is stable. It may be necessary to continue this for several hours. If levarteranol is not available, the blood pressure may be maintained by an injection of phenylephrine hydrochloride (Neo-Synephrine®), 0.5 mg. IV or IM. If no flask of five per cent dextrose is available, use 0.10 to 0.20 ml. of epinephrine

dissolved in 10 ml. of saline and inject *slowly* into the vein. If saline is not available, draw 0.10 ml. to 0.20 ml. of epinephrine, withdraw 10 ml. of blood and mix; then inject slowly. If severe bronchospasm is present, aminophylline, 0.5 gm. is given slowly by vein. The dose is, of course, reduced in children.

(5) *Other measures.* Hydrocortisone (Solu-Cortef®), 100 mg., or 1 to 2 ml. of Decadron® (4 to 8 mg.) may be given IV. Oxygen may be given by mask, nasal catheter, or intermittent positive pressure (IPP). When using IPP, add 1 ml. of Isuprel® to 2 ml. of water, Tergemist®, or Alevaire®. Tracheotomy may be indicated for dangerously severe laryngeal edema, and cardiac massage is indicated in cardiac arrest. It is to be fervently hoped that the last two measures are never needed!

Treatment of Urticaria and Angioedema

SEVERE REACTIONS WITH LARYNGEAL EDEMA

(1) Epinephrine, 1:1,000, 0.03 ml. to 0.5 ml. subcutaneously. Repeat in 15 to 30 minutes, two or three doses as necessary.

(2) Epinephrine or Isuprel spray locally to laryngeal area.

(3) Benadryl or Pyribenzamine, 50 mg.

(4) Steroids, Hydrocortisone, 100 mg. or Decadron, 8 mg. IV followed by oral steroids, prednisone, 10 mg. q6h.

(5) Tracheotomy for alarming respiratory stridor and dyspnea.

MILDER URTICARIA AND ANGIOEDEMA

(1) Epinephrine, 0.10 ml. and Chlor-Trimeton, 1 ml. (2 mg.) may be given together in the same syringe; repeat in 15 to 20 minutes if necessary.

(2) Steroids: Decadron, 4 mg.

(3) Oral antihistamines may suffice for mild cases, but if urticaria is persistent, give steroids in decreasing doses for about a week.

In using antihistamines for urticaria, the dose is usually double that given for ordinary hay fever. The addition of Atarax®, 10 to 25 mg. is often helpful.

Serum sickness due to reactions is for the most part self-limiting.³ It is most common after penicillin or tetanus antitoxin. Treatment is as for urticaria, but the use of steroids must often be more prolonged.

Treatment of Reactions to Insect Stings

The common offenders are the *hymenoptera*, bees, wasps, hornets, yellow jackets, and fire ants. The symptoms are: urticaria, angioedema, asthma, anaphylactic shock. Mosquito bites, although usually responsible for no more than local swelling, may cause more severe reactions, especially when stings are multiple.

(1) If sting is in arm or leg, place tourniquet above sting site and inject epinephrine, 0.30 ml. into site.

(2) Inject 0.3 ml. of epinephrine into other arm; repeat in 15 to 30 minutes.

(3) If stung by bee, remove stinger carefully so as to avoid squeezing toxin into the tissue; or scrape off with knife.

(4) Inject antihistamines subcutaneously or intravenously, depending on severity of reaction.

(5) Proceed as with anaphylactic shock above.

Treatment of Status Asthmaticus

When ordinary treatment at home or in the doctor's office has been of no avail, hospitalization is indicated. By the time the patient is admitted to the hospital he has usually become "epinephrine-fast." He must be separated from a self-administered nebulizer, which he holds tightly in his hand, gulping the mist every few minutes. By this time his bronchial mucosa is swollen and edematous much in the manner of nasal mucosa in patients habituated to nose drops. The only effect is a mixture of such symptoms as palpitation, tachycardia, arrhythmia, throat dryness, and apprehension. He presents, incidentally, the picture that makes the allergist hesitate or refuse to use nebulizers in asthma.

The epinephrine-fast patient needs bronchodilators other than the adrenergic group. Here aminophylline is of great value. It is most effective intravenously, somewhat less so by rectum, and of limited value by mouth. The adult dose is 0.5 gm., repeated every 8 to 12 hours. A useful form of oral aminophylline is Elixophyllin, dose 2 to 3 oz. This product is helpful not only because the aminophylline is rapidly absorbed through the stomach but because the alcohol acts as a relaxer.

The treatment of status asthmaticus may be summarized as follows:

(1) Intravenous fluids, 1 liter of five per cent dextrose to which has been added 0.5 gm. of aminophylline, 25 units of ACTH or 100 mg. of Solu-Cortef. This is given over a six hour period.

(2) Hydrocortisone, 100 mg. is given IM at the same time; it may be repeated every six to eight hours.

(3) Intermittent positive pressure. In IPP, I like to set the apparatus at 10 mm. of mercury, 10 liter flow per minute, and to administer it for 10 minutes. The "tens" are easy to remember. At times the pressure must be raised to 20 mm. and the flow rate may need adjustment to the individual patient. The aerosol usually contains 2 ml. of water and 2 ml. of Alevaire or Tergemist. IPP treatment should be re-

served for severe cases. Where it is overused, patients may become dependent on it.

(4) The replacement of moisture to the bronchial mucosa is important to loosen the thick, ropy, inspissated mucus, which has blocked the bronchi. Later when the patient is again able to respond to adrenergics, Isuprel, 0.5 to 1 ml. may be added to the aerosol.

(5) Iodides. By mouth, saturated solution of potassium iodide, 1 ml. (15 minims) may also be added to the above intravenous ingredients. Much has been written about allergy to iodides and their untoward effects, such as glandular swelling, gastrointestinal upsets, and rashes. But used with discretion, they are useful in loosening and moving of dry, hard mucus from the bronchi.

(6) Antibiotics. Tetracyclines, 250 to 500 mg. IM q12h are indicated. Infection probably plays an important role in the case, and this must be kept constantly in mind.

(7) Sedation. Chloral hydrate in the form of Noctec® or Somnos capsules, 250 to 500 mg., is usually well tolerated and appreciated. Barbiturates are likely to confuse the patient more than relieve him. *Morphine is completely and absolutely contraindicated* because of its depression of the respiratory center.

Prevention of Allergic Emergencies

The best treatment of allergic emergencies is to prevent the occurrence of allergic emergencies! In many patients the reactions are *iatrogenic*. We, the physicians, produce them, and we can prevent them. Penicillin is an excellent example. There may be no previous history of constitutional reactions, hives, angioedema, or rashes. Skin tests to penicillin may have been completely negative, but the injection nevertheless produces a violent anaphylactic reaction. Penicillin is our greatest antibiotic sensitizer. Five to ten per cent of our population is allergic to this drug. Many times reactions have occurred in patients who did not ever need an antibiotic. So, why give penicillin in the first place? Many other antibiotics are as effective, or even more effective. In my office we don't even *own* a bottle of penicillin!

Even though deaths from insect stings are relatively rare, all patients who are one time or another have had constitutional reactions following insect stings *must* be hyposensitized.⁶ The next sting may be fatal! Hyposensitization is remarkably effective. I have treated more than 50 patients with hymenoptera insect stings. Many have again been stung, but no severe constitutional reaction has been encountered in any of them.

After determining a patient's sensitivity for the hymenoptera, each patient is given a prescription for an antihistamine, Isuprel Linguets 15 mg., and a self administering vial of epinephrine (Empins). This is

a 0.5 ml. vial of epinephrine 1:2,000 and has a sterile needle attached to a plastic tube. The patient needs only to insert the needle and break the capillary tube, which when broken causes the epinephrine to flow under the skin. He is instructed how to apply a tourniquet above the site of the sting and how to remove a bee's stinger. He is to insert the Isuprel under the tongue and swallow two of the antihistamine pills. He is then instructed to see his doctor at once. He carries a letter in his billfold as follows:

To the doctor concerned:

Mr. John Smith has a severe insect sting sensitivity. Please administer:

- (1) Adrenalin 1 to 1,000 0.3 ml. Hypo. Repeat in 10 minutes.
- (2) Inject 50 mg. Pyribenzamine or Benadryl, or equivalent antihistamine intravenously or intramuscularly.
- (3) Steroids: 100 mg. Solu-Cortef or 1 ml. or 2 ml. Decadron (4-8 mg.).

If any other information is needed, please phone me, collect.

Before giving tetanus antitoxin (horse serum) inquire if the patient has a horse dander sensitivity. If he has asthma when in contact with horses be very careful about testing him to the antitoxin. He should be tested by a scratch test to the 1-100 (not 1-10) dilution first. If positive, do not proceed with intradermal testing because fatality may occur. A fatality has been reported to a skin test of undiluted horse serum.

Horse serum sensitive patients should be immunized with tetanus toxoid, and boosters should be kept up at three year intervals. If no toxoid has been administered, there is now available human tetanus immune globulin 250-500 units. This is a gamma-globulin fraction prepared from human serum hyperimmunized with tetanus toxoid. "Homo-Tet" produced by Cutter Laboratories is now available. Patients having a positive intradermal skin test to 1-100 dilution of tetanus antitoxin should be given this product. No drug, vaccine, serum, biological or other therapeutic agent should be administered unless a negative history of allergy to previous administration is obtained.

To prevent reactions from hyposensitization to pollens, house dust, molds, or insects, inquire if the patient had any local or constitutional reactions with previous injections before giving the next higher dose. If reactions have occurred, his dose should be cut back one-half to one-tenth of the dose causing the reactions. Measles and influenzal vaccines derived from chick embryo should not be given to egg-sensitive patients.

By utilizing the above measures of prevention many allergic emergencies can be obviated. But, if they do occur, it is hoped that the procedures outlined in this paper may be helpful.

References

1. Boyd, W. C.: *Fundamentals of Immunology*, Interscience Publishers (New York, 1947), p. 307.
2. Dworetzky, M.: Anaphylaxis and serum sickness, *Current Therapy*, Conn, Howard F. (Editor), W. B. Saunders (Philadelphia, 1963), p. 387.
3. Halperin, B.: Histamine and process of histamine liberation, *Fundamentals of Modern Allergy*, Prigall, Samuel J. (Editor), McGraw-Hill (New York, 1960), p. 27.
4. Prigall, S. J.: *Fundamentals of Modern Allergy*, McGraw-Hill (New York, 1960), p. 605.
5. Stafford, G.: Anaphylactic reactions, *The Allergic Child*, Speer, F. (Editor), Harper and Row (New York, 1963), p. 169.
6. Swinney, B.: Allergy to insect stings, *The Allergic Child*, Speer, F. (Editor), Harper and Row (New York, 1963), p. 269.
7. Vaughn, W. A. and Black, H.: *Practice of Allergy* (third edition), C. B. Mosby Co. (St. Louis, 1954), p. 822.

Drugs and Allergy

(Continued from page 93)

Adrenalin, administered at once, is the life-saving drug of choice. Small doses (0.10 to 0.25 ml.) as often as necessary is best. The delayed reactions of the angioedema recurrent shock pattern of serum sickness following tetanus and penicillin are also treated with adrenalin. Next, after adrenalin, antihistamines, cortisones, slower, longer-acting pressors, and other therapeutic agents are given.

Dermatoses from drugs include: dermatitis medicamentosa; multiform photosensitivity, systemic reactions, blood dyscrasias (thrombocytopenic purpura, aplastic anemia, granulocytopenia); hepatitis; polyarteritis nodosa; and probably many auto-immune systemic diseases.

After penicillin as a most frequent offender are the barbiturates, tranquilizers, iodides, and rarely most any chemical taken by the specifically sensitized patient. Photosensitivity reactions can either be primarily from sun or in combination with photo-sensitizing drugs such as Declomycin and phenolphthalein.

Ephedrine, although a good drug, can cause urinary bladder symptoms, uterine spasm, and intestinal spasm. In those patients, other sympathomimetic drugs such as Sudafed®, phenylephrine and propanolamine are tried in place of ephedrine.

Although of vast usefulness in both home medication and physicians' prescriptions, aspirin occasionally causes severe asthma. Whether this is due to the rare hypersensitivity of the individual patient or some of the yet unknown degradation products is not clearly defined. The chronic bronchitis, non-atopic, emphysema type patient is said to be more prone to develop aspirin sensitivity. Tylenol®, Tempra®, or Apamide (N-acetylparaaminophenol) must be used instead of aspirin.

The very small dose of barbiturates combined with ephedrine or aminophyllin in tablets, liquids, or

suppositories is currently being omitted. Barbiturates are contraindicated for the allergy patient. They can sensitize skin and cause gastrointestinal hypersensitization and personality disorders. If tranquilizing or mild sedative action is desired, it is best to try Carbromal, Chloral hydrate, Phenergan, or Benadryl.

References

1. Alexander, H. L.: *Reactions with drug therapy*. Philadelphia, Saunders, 1955.
2. Harris, M.: *Practical allergy*. Philadelphia, F. A. Davis Co., 1957.
3. Rohr, J. H., and Haskell, A. R.: Studies in long term decongestant therapy. *Clin. Med.* 70:12, Dec., 1963.
4. Waldbott, G. L.: Death from penicillin. *J.A.M.A.*, 139:526, 1949.
5. Welch, H.: Symposium on reactions to antibiotics. *Antibiotics Annual*, 1959-1960.

YOUR ACHING BACK

Backache, a condition described as "almost as common as the cold but much more painful and disabling," can be blamed on poor posture, lack of exercise and the tensions of contemporary life, including commuting.

These opinions were expressed by Dr. Hans Kraus, physical medicine professor at New York University Medical College, during a recent meeting of the New York State Medical Society.

The history of back patients "includes poor working posture, stressful working conditions, frequently aggravated by stressful commuting conditions, family life with emotional frictions, and finally, real emotional disturbances," he pointed out.

Postural deficiencies were found responsible in 80 per cent of 9,000 back patients seen at two large New York institutions, the physical fitness specialist continued. "Weakness and stiffness of key postural muscles, tension and spasm" were observed.

He also told how the "proper prescription" of standardized exercises can successfully treat chronic back conditions. In addition to a regimen of precise exercises for about 20 minutes daily, Dr. Kraus recommends deep breathing, a hard bed, good posture, relaxant drugs and a changed living pattern. These measures also are useful for true disk disease and after operations, he added.

Common causes of backache are not local, but are the result of "emotional, physical and glandular imbalance," he said. "Our lives are sedentary and we are subjected to a large number of irritations. Often our responses must be suppressed." This produces muscle tension and under-exercised bodies cannot handle the chronic strain.

Annual Meeting, Medical Society of the State of New York, New York City, Feb. 12, 1964.



Lymphangiosarcoma Arising in a Chronically Edematous Arm Following Radical Mastectomy

Edited by **PAUL S. QUINN, M.D., Kansas City, Kansas**

Dr. Stanley R. Friesen (Moderator): The patient for discussion today had a tumor of mesenchymal origin. Dr. Simons, will you please review the clinical history?

Dr. John Simons (Resident in Plastic Surgery): The patient is a 60-year-old white woman, first seen at KUMC on the 28th of August, 1964. She related a history of having noticed a purple, nodular lesion on the medial aspect of the left arm just above the elbow, approximately ten months prior to admission. The original lesion had grown and other lesions appeared around it.

The patient's past medical history revealed that she had undergone radical mastectomy for carcinoma of the left breast in 1950. After this operation she received approximately 20 x-ray treatments to the left chest and shoulder region. Following this, she had developed edema of the left arm and forearm with swelling often extending to the wrist. The edema had been persistent in the arm throughout the postmastectomy period.

Physical examination revealed nodular lesions involving an area approximately 10 cm. in greatest dimension just proximal to the antecubital space on the medial surface of the left arm. Some of the smaller nodules were thought to be satellites. Some were deep purple and others were not discolored. The upper arm was lymphedematous but the forearm showed essentially no swelling.

No enlarged lymph nodes were palpable in the axilla or in other superficial lymph node sites. A healed left radical mastectomy scar was present and the physical examination revealed no additional abnormalities.

The routine laboratory studies performed showed no abnormal results.

Dr. Friesen: I'm not sure I know exactly what this lesion looked like. Were the nodules purplish?

Dr. Simons: Yes, the lesions were purplish and raised.

Dr. Friesen: In the skin?

Dr. Simons: Yes sir.

Dr. Friesen: Not under the skin?

Dr. Simons: At the time of our initial examination, I don't think we could ascertain whether these lesions were definitely within the skin or under the skin. However, I must say that some of the lesions were not discolored and appeared to be deeper, underneath the skin.

Dr. Friesen: Were the lesions discrete?

Dr. Simons: Yes, some of the lesions were discrete, and some of them were more diffuse. It was an unusual looking lesion.

Dr. Friesen: What does the satellite description have to do with it? Was there one lesion that appeared to be the home base and were the others satellites around it?

Dr. Simons: Yes, this was our initial impression.

Dr. Friesen: Were these lesions black like nevi?

Dr. Simons: Yes, one or two of these lesions closely resembled nevi but they were not black in color, they were purplish. However, one or two of the lesions looked pretty dark and with the satellite arrangement we were thinking along the lines of malignant melanoma and our preoperative diagnosis was malignant melanoma.

Dr. Friesen: Were any x-rays taken?

Dr. Simons: Only chest x-rays were taken and these showed no abnormalities.

Dr. Friesen: Are there any questions about the history, physical examination, laboratory findings or x-ray examination?

Dr. J. O. Boley (Surgical Pathologist): Were these lesions painful?

Dr. Simons: No.

Dr. Friesen: Did the lesions blanch with pressure, like they were full of blood?

Dr. Simons: They did not.

Dr. Friesen: This patient was then 46 years old when she underwent radical mastectomy, presumably for carcinoma of the breast.

Dr. Simons: Yes. Pathology reports obtained from the hospital in which that operation was performed indicate the tumor to have been an intraductal papillary carcinoma. There was no evidence of lymph node metastasis.

Dr. Friesen: What's the diagnosis, Mr. Klaassen?

Perry Klaassen (Medical Student): Dr. Tice showed me an interesting patient in radiation therapy today who had purple lesions on the leg with edema and this was a Kaposi's sarcoma.

Dr. Friesen: Kaposi's sarcoma. Well, that's a mesenchymal tumor as was the tumor mentioned in the introduction of the conference today. Perhaps we have a Kaposi's sarcoma here, Mr. Klaassen? Was a biopsy done next, Dr. Simons?

Dr. Simons: No, we excised the entire area and covered the wound with a skin graft.

Dr. Friesen: Dr. Robinson, would you discuss the diagnosis and management of this lesion?

Dr. David Robinson (Plastic Surgeon): I was away when this patient was admitted to the hospital and I did not see the patient until after surgery. I understand we have a photograph showing this lesion. Is that available?

Dr. Simons: Yes, this picture is available and it shows the described purple lesions (*Figure 1*).



Figure 1. Medial surface of left arm showing lesions described in text. Note edema present and initial lesion on right, near elbow.

Dr. Robinson: Is this the arm, and does this represent edema?

Dr. Simons: Yes, edema of the upper arm.

Dr. Arthur Kahn (Surgery Resident): In addition, both of these two larger lesions were indurated beyond the areas of discoloration.

Dr. Friesen: That certainly looks like a melanoma.

Dr. Robinson: Yes, this most certainly does look like a melanoma, and this was the reason this lesion was not biopsied, in fear of cutting into a melanoma and perhaps disseminating it by the hematogenous route, thus putting the patient into an even more hazardous situation. I think the proper thing was done to excise the entire lesion and cover the wound with the necessary skin graft. Now, what else might this lesion have been? It certainly may have been a soft tissue sarcoma or perhaps another epithelial lesion other than melanoma, but this violaceous hue or even more purple hue of hemorrhagic nature makes one begin to wonder if this lesion may not have been of vascular origin. It is much easier to say this in retrospect than it was at the beginning. One begins to slow up here as to the diagnostic possibilities, except to say, tumor, probably melanoma, possibly sarcoma, and that is about as far as I would be able to go.

Dr. Friesen: Very good. Thank you. Now, Dr. Simons, do you want to tell us more about the treatment, and then we will look at the histology of this lesion.

Dr. Simons: We simply excised the lesions, getting well around them and a skin graft was applied. The skin graft took well but as we will find out from the pathology report, we may not have done as radical an operation as would now seem to be indicated.

Dr. Friesen: Did you go down to the fascia?

Dr. Simons: Yes, we went down to the muscle fascia, and took the block of skin and subcutaneous tissue off.

Dr. Friesen: Dr. Helwig, may we see the slides at this time?

Dr. Ferdinand Helwig (Pathologist): We can show two sections here which are representative. There is quite a variation in the pattern, ranging from patchy infiltrates of lymphocytes in the dermis and subcutaneous tissue to dilated, benign-appearing lymphatic channels which merge with more cellular foci. I think this more cellular region shows the nests or groups of tumor cells which consist of tightly packed, usually collapsed, endothelial lined channels which show many mitotic figures and primitive nuclei (*Figure 2*). These cells are attempting to form small, either lymphatic channels or blood vessels. Frankly, I am not able to make an unqualified differential diagnosis between this tumor and a Kaposi's sarcoma of the variety that we often see similar to this, how-

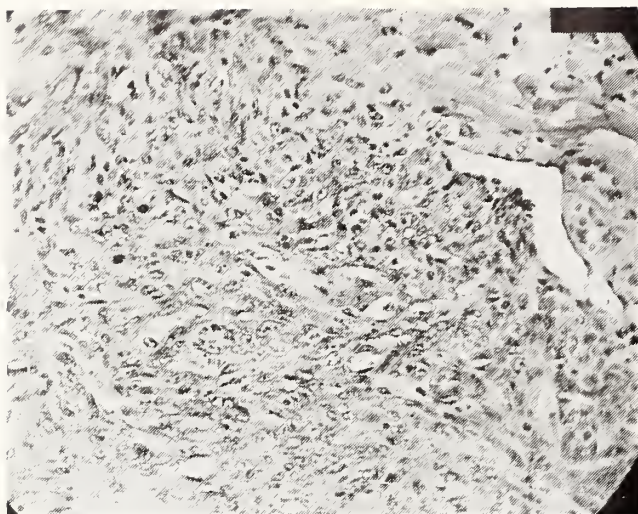


Figure 2. (275 \times) Highly cellular region of tumor consisting of tightly packed, usually collapsed endothelial lined channels. Note mitotic figures and primitive nuclei.

ever, some of the sections which do not show this degree of cellularity show what appears to be more likely channels of lymphatic type. On higher magnification (Figure 3) examination shows tortuous channels lined by endothelium. The true nature of these channels is indicated by silver stains for reticulin (Figure 4) which demonstrate an angiomatous pattern with reticulin sheaths surrounding the endothelial lined spaces. The channels do not usually contain red blood cells, and thus probably represent the earlier stages of lymphangiosarcoma.

McCarthy and Pack also noted the similarity of Kaposi's sarcoma and postmastectomy lymphangiosarcoma. In a survey of 56 cases of angiosarcoma and Kaposi's sarcoma which included two cases of lymphangiosarcoma, they stated that in their opinion the lymphangiosarcoma of the upper extremity developing in surgical elephantiasis is truly identical with Kaposi's sarcoma. However, as noted previously, the more uniformly angiomatous pattern of lymphangiosarcoma, the large vascular channels outlined by reticulum, and the lumina usually devoid of red cells and lined by plump endothelial cells are all features helpful in the differential diagnosis and point toward the diagnosis of lymphangiosarcoma.

Until 1948 when Fred Stewart and Norman Treves reported a series of lymphangiosarcomas occurring in the chronically edematous arms of postmastectomy patients, this lesion had not been reported. These authors showed some pictures, one of which is in color and is quite similar to the picture of this lesion previously shown today.

Herrmann and Gruhn reported 26 cases of postmastectomy lymphangiosarcoma, and the mean age of the patient at the time of mastectomy was 51.5

years. The mean age at the time of appearance of lymphangiosarcoma was 62 years. These authors noted that the prognosis in this condition is grave since most patients died of pulmonary metastasis within one year and no therapeutic procedure had proved satisfactory. Four of the patients reported had survived three or more years and two of these patients had received radiation therapy while two had undergone interscapulothoracic amputation. These authors suggested that irradiation be the initial therapy since lymphangiosarcoma is radiosensitive in certain patients. Interscapulothoracic amputation could then be considered if no favorable response was obtained within a relatively short time after institution of radiotherapy.

In 1962 Taswell and associates reported 11 Mayo Clinic patients with postmastectomy lymphangiosarcoma and two additional patients with lymphangiosarcoma in lymphedematous extremities in whom the lymphangiosarcoma was unrelated to surgical treatment. They also summarized the clinical and pathological findings in 47 previously reported cases of lymphangiosarcomas occurring in postmastectomy lymphedema bringing the total to 64 accepted examples and seven probable examples of this condition. They noted the high incidence of severe, persistent lymphedema, the lymphangiomatosis which is characterized by numerous newly formed lymphatic vessels in various stages of endothelial proliferation, and the multicentricity of the lymphangiosarcomas that develop, and suggested chronic lymphedema as the most significant factor in the etiology of this disease. I think there are possibly three significant etiologic factors in this condition: one, possibly influence of the surgically removed cancer, two, possibly the severe long-standing edema and three, possibly post-

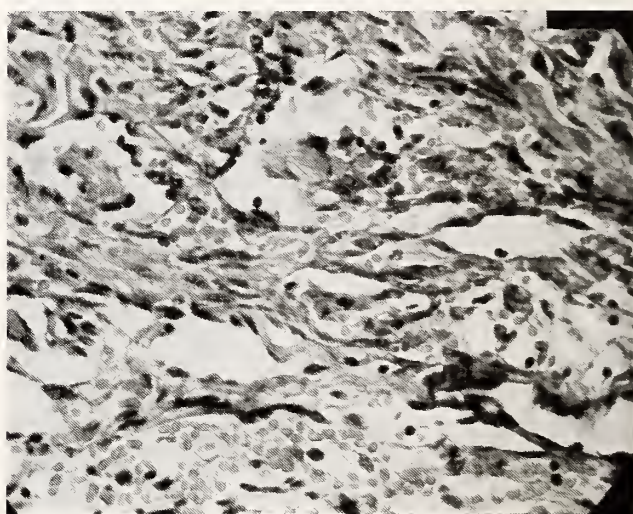


Figure 3. (440 \times) Less cellular region of tumor showing tortuous lymphatic channels lined by endothelium. Note mitotic figure near center.

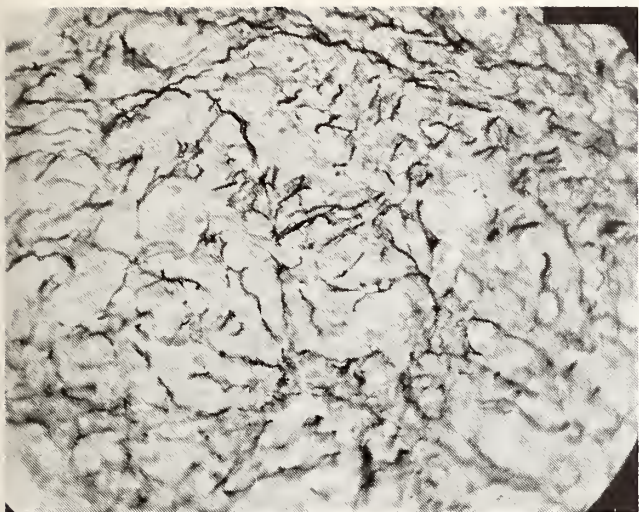


Figure 4. (275 \times) Reticulin stain demonstrates angiomatous pattern with reticulin sheaths surrounding endothelial lined spaces.

operative irradiation may be significant in some cases.

Lymphangiosarcomas have also been reported in the lower limb in patients with lymphatic obstruction, with elephantiasis of the leg. The first case was reported in 1918 by Kettle.

Dr. Friesen: Thank you, Dr. Helwig. We have one minute left, could you summarize the literature for us in 60 seconds, Dr. Simons?

Dr. Simons: There are two points which I think are worth mentioning in addition to the previous discussion. Clinically, there is a fair differentiation between Kaposi's disease and Stewart-Treves syndrome in the fact that Kaposi's disease is usually found in males, is most often first seen in the lower extremities and the survival rate in Kaposi's disease approaches 50 per cent. I believe the tumor nodules in Kaposi's disease are painful and tender, and also Kaposi's sarcoma often occurs in multiple sites. The patients may have visceral lesions or multiple skin lesions.

In 1960 McSwain and Stevenson reported 37 cases of postmastectomy lymphangiosarcoma, 36 of these being previously reported cases from the world litera-

ture to that time. Only two patients from this group survived over five years. In the patients who died the average duration of life following diagnosis was 16 months. These authors felt that the tumor was of extremely lethal nature and felt that improved survival rate would come only from early diagnosis and prompt interscapulothoracic amputation. This is why I referred earlier to the fact that we probably did not carry out the preferred operative procedure in this case. However, it is difficult to decide to do an interscapulothoracic amputation for such a small lesion. In summary, I think this lady has presented with typical history, clinical course and pathological findings of Stewart-Treves syndrome or lymphangiosarcoma arising in a chronically edematous arm following radical mastectomy. The prognosis is grave with the use of any therapeutic regimen available today.

Addendum

This patient returned three months after the local tumor resection with recurrent tumor nodules in the distal end of the skin graft and beneath adjacent normal skin. Physical examination and thorough radiographic studies including liver scan and brain scan revealed no evidence of metastatic disease. Interscapulothoracic amputation was performed in a final effort to eradicate this tumor.

References

1. McCarthy, W. D. and Pack, G. T.: Malignant blood vessel tumors; a report of 56 cases of angiosarcoma and Kaposi's sarcoma. *Surg. Gyn. Obst.* 91:465-482, 1950.
2. Herrmann, J. B. and Gruhn, J. G.: Lymphangiosarcoma secondary to chronic lymphedema. *Surg. Gyn. Obst.* 105:665-674, 1957.
3. Stewart, F. W. and Treves, N.: Lymphangiosarcoma in postmastectomy lymphedema; a report of six cases in elephantiasis chirurgica. *Cancer* 1:64-81, 1948.
4. Taswell, H. F., Soule, E. H. and Coventry, M. B.: Lymphangiosarcoma arising in chronic lymphedematous extremities. Report of 13 cases and review of literature. *J. Bone Joint Surg.* 44-A:277-294, 1962.
5. Kettle, E. H.: Tumors arising from endothelium. *Proc. Roy. Soc. Med.* 11:19-34, 1918.
6. McSwain, B. and Stephenson, S.: Lymphangiosarcoma of the edematous extremity. *Annals Surg.* 151:649-656, 1960.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

Applications and letters of request from previous applicants requesting to be scheduled for the forthcoming Part I examination of this board to be given July 2, 1965, will be accepted in the board office up until the closing date of February 28, 1965. Applications and letters of request postmarked after that date will be returned to the sender.

Application forms and bulletins may be obtained by writing to the office of the secretary—Clyde L. Randall, M.D., American Board of Obstetrics and Gynecology, 100 Meadow Road, Buffalo, New York 14216. Servicemen applying for the Part I examination are requested to submit the name of their Commanding Officer.

The President's Message

DEAR DOCTOR:

When you read this the Kansas Legislature will be actively considering a variety of proposed changes in the law. Fifty, or perhaps more, will relate to health. Some might radically affect the standards of professional service and thereby concern us all.

You are completely familiar with the position of the Kansas Medical Society. We shall continue to exert every effort to preserve for all people their free choice of medical care. We shall support legislation that will improve health care and will oppose with equal vigor whatever attempts may be made to compromise quality. We will do this now, as in the past, in the public interest.

However, our efforts in Topeka are of little value when compared with the effectiveness of your personal visit with your state representative and senator. During the early portion of the session they will frequently return home for the weekend. You cannot perform a greater service to your Society and to your patients than by personally explaining to them what standards in health care mean, how they serve the people of Kansas, and why you believe they should be upheld.

Sincerely

A handwritten signature in cursive script that reads "John C. Mitchell, M.D.".

President





Editorial COMMENT

The Administration's Health Bill

Early in the 89th Congress Senator Anderson of New Mexico introduced S. 1 and Mr. King of California introduced an identical bill in the house, H. R. 1. These are long bills with 132 pages and include numerous subjects. A summary of the bill, prepared by the AMA, occupies 16 pages of single spaced material. The further abbreviation here is, therefore, incomplete but will cover the principal material. The title of the bill is, "Hospital Insurance, Social Security and Public Assistance Amendments of 1965."

The bill increases federal grants to the states for the Old Age Assistance program. It also includes, for the first time, federal benefits for patients in state operated mental and tuberculosis hospitals. It authorizes OAA recipients to receive cash benefits notwithstanding the fact they received MAA benefits during a month.

The bill provides compulsory social security coverage as of January 1, 1966, for self-employed physicians, interns and residents.

It will raise the coverage base for the social security tax from \$4,800 at present to \$5,600 and increases the taxable amount in three stages to be completed in 1971. If the bill passes, in 1966 employees and employers each would be increased from the present tax of \$174 a year to \$238 a year. By 1971 the tax will be \$291.20. The tax for self-employed individuals would be increased from the present \$259.20 to \$358.40 in 1966 and by 1971 it would be \$436.80.

Present cash benefits under social security would be increased beginning January 1, 1965, from a minimum of \$40.00 to \$42.80. The present maximum of \$127.00 would be raised to \$135.90 for individuals. The minimum family benefits would be increased from the present \$60.00 to \$64.20 and the maximum from \$254.00 to \$286.80. By 1971 the individual maximum benefit would be \$149.90 and the maximum family benefit would be \$312.00.

Of primary importance to physicians at this time are the benefits to the aged in the area of health care. These can briefly be described as follows:

—Any person over age 65, whether under social security or not, regardless of his income status, is entitled to certain health care payable by the federal government. Those under social security will be paid through social security funds. Others will receive their care from a special fund of the general treasury of the United States.

—Benefits will include up to 60 days hospitalization in a two or four bed room with the patient being required to pay the first day's care.

—Up to 60 days care in a post-hospital facility will be paid if the patient is transferred to a facility which has a direct relationship or a working contract with the hospital from which the patient is transferred. This benefit is available only immediately following a period of hospitalization.

—Home health services, meaning visiting nurse care, services of speech therapists, physical therapists and other rehabilitative care, are allowed up to a maximum of 120 visits in 1966 and 240 visits in subsequent calendar years.

—A benefit period is complicated by the fact that if the patient on the first day of confinement in an eligible hospital has not been a patient for 90 days during the previous 180 days he may begin a new benefit period. Should he have been hospitalized more than 90 days within that period he is eligible only for the unused portion of his benefits.

—Hospital services include all normal hospital services. It would not include medical or surgical services except in the fields of pathology, radiology, physiatry and anesthesiology. It would also include all types of services rendered in a hospital by an intern or resident. It does not include private duty nursing care.

—In the hospital and in all post-hospitals, extended care review committees of physicians are required. They must report their recommendations on the 21st day of care and at intervals thereafter, and after consultation with the attending physician, may recommend that further stay is not medically neces-

sary. In nursing homes or hospitals that are too small to have organized professional staffs the review committee will be established by the local medical society from physicians not directly connected with the hospital or nursing home.

In language that is not completely clear, the bill says it is the intention of the congress that this does not preclude any state or individual from providing or purchasing protection against the cost of health or medical care services in addition to those covered by this bill. In fact, it authorizes HEW to negotiate an agreement with an organization designed "by a group of providers of services" or by an association of such providers in behalf of its members to receive payments and to give benefits. It appears at this time the bill strongly hints that contracts may be entered into with local Blue Cross organizations to act in behalf of member hospitals.

There is one other item in this bill that should be mentioned. It states that congress declares its intention to provide an opportunity for aged individuals to secure at a reasonable cost private health insurance to protect them against the cost of health services not covered under the social security program. To do this the bill exempts from federal and state anti-trust laws two or more health insurance carriers which form an association to provide such benefits. Such carriers must file an application with HEW for approval of their plan. To be approved the insurance must pay at least 75 per cent of the cost of physicians' services for aged persons, that its terms and conditions of the sale will be uniform except that premiums and benefits may vary in the different states, and that the operation of the plan is on a non-profit basis.

The AMA is calling an emergency session of its House of Delegates on February 6 and 7 at which time the details of this legislation will be studied. The AMA by that time will have a piece of legislation on this subject to present which will provide health care benefits to the aged but which will eliminate the compulsion contained in S. 1 and H. R. 1. As these provisions become known they will be recorded in subsequent issues of the JOURNAL.

Governor's Message

On January 18, Mr. William H. Avery, governor, addressed the joint session of the 1965 Kansas Legislature. He advocated increased appropriation to support county mental health clinics. On the subject of social welfare he advocated a further increase of an additional mill levy and said—

"In the budget that I will be submitting to you I will recommend increased allocations for the uniform medical program for the traditional assistance categories during the current fiscal year so that it will not

be necessary to prorate the payment of medical vendor claims. I shall be recommending the support of both the uniform medical program and the program of medical assistance for the aged under the Kerr-Mills bill which was recently enacted. This Kerr-Mills program is now only one year old and I am not recommending that any statutory changes be made in it. This would not preclude the possibility of administrative changes being made by the Board of Social Welfare and the affected medical vendor groups for upgrading the quality of service within the Kerr-Mills category.

"In view of the overwhelming evidence that a change in federal program affecting health care will be forthcoming I may have additional recommendations to make to the legislature during the course of this session."

Buy U.S. Savings Bonds

NEW MEMBERS

The JOURNAL takes this opportunity to welcome these new members into the Kansas Medical Society.

Paul W. Andreas, M.D.
St. Francis Hospital
Wichita, Kansas

R. J. Cummings, M.D.
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Building
Wichita, Kansas

C. C. Drevets, M.D.
3244 East Douglas
Wichita, Kansas

George J. Farha, M.D.
959 North Emporia
Wichita, Kansas

Victor G. Henry, Jr., M.D.
434 North Oliver
Wichita, Kansas

Michael C. McNalley, M.D.
3244 East Douglas
Wichita, Kansas

Warren G. Phillips, M.D.
K. U. Medical Center
Kansas City, Kansas

Terry L. Poling, M.D.
6155 East Harry
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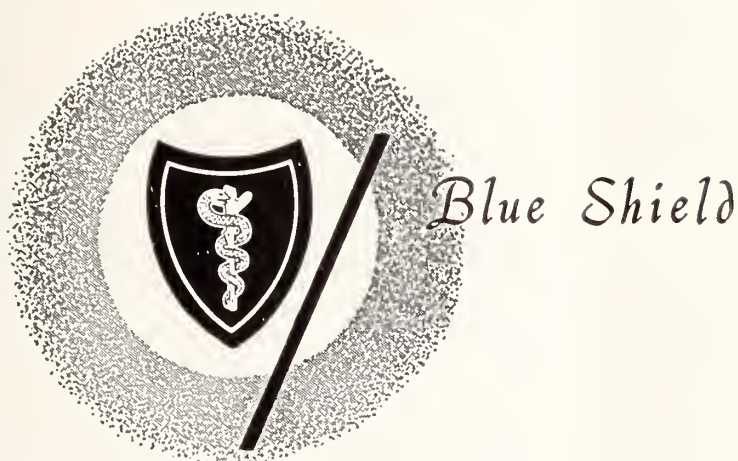
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Charles T. Stubblefield, M.D.
155 South 18th Street
Kansas City, Kansas

John H. Weninger, M.D.
1148 South Hillside
Wichita, Kansas



Blue Shield's 1964 Progress Surveyed

The year 1964 saw Blue Shield achievements in many areas. Here is a brief summary of some of these activities. . . .

Benefits Were Improved . . .

Several changes in Blue Shield coverage were made. Most significant was the revision in the method of payment for general anesthesia services under Schedule 2. Previously, allowances were based upon the length of time services were rendered without reference to the surgical procedure involved. Revised allowances which became effective at the year's end are computed according to the new Kansas Relative Value Schedule units approved by the Kansas Medical Society's Committee on Fee Schedules. This means that payments are now founded on the difficulty of the surgical procedure plus time of administration.

Other revisions were also made in Blue Shield contracts. These included an extended time limit (to eight days) during which emergency first aid treatment may be available plus the inclusion of coverage for deep organ aspiration biopsies.

Enrollment Climbed and Subscribers Upgraded . . .

A net growth of 14,000 new subscribers occurred during 1964. This resulted in a December estimate that 610,000 persons in the Kansas Plan area now have some form of Blue Shield coverage. This total did not include persons living in Wyandotte and Johnson Counties who were enrolled through Missouri Blue Shield of Kansas City.

Of possibly greater importance was the continued

success of efforts to upgrade subscribers from Schedule 1 to higher benefit levels. Beginning the year with well over one half of total enrollment still covered under the old Schedule 1 (or Plan A) contract, Blue Shield's marketing and educational efforts succeeded in significantly reducing this figure during the next twelve months. Tentative estimates in January, 1965 indicate that Schedule 1 presently accounts for only 45 per cent of the overall contract count.

One of 1965's major goals is to further reduce this figure. In line with this aim is a new policy to withdraw the availability of Schedule 1 for new enrollment, except in cases where prospective groups specifically request a low level program because of a preponderance of low salaried employees, or when major medical coverage is wanted in addition to basic coverage.

Finances Were Sound . . .

The 1964 rate increases stabilized reserves, which during the early 60's had been lowered by a continuing upward trend in subscribers' use of benefits. By the last quarter of 1964, rising utilization appeared to be levelling off. The 1965 rates were increased in order to augment already stabilized reserves. This means that Blue Shield's overall fiscal situation as it enters the coming twelve months is the most promising in recent years.

Better Service Realized . . .

Electronic processing of claims and billings began to produce meaningful results during 1964. Case payments to physicians' offices were speeded up. Weekly

remittances were made to offices and case backlogs were reduced. Fewer payments were delayed in processing. Overall improvements in servicing occurred at a time when Blue Shield business transactions reached an all time high. Finally, all this was accomplished at a lower operating cost than in 1963. Operating costs in 1963 were 6.9 per cent of income while the estimate for 1964 is 6.3 per cent of income.

Communications Improved . . .

Blue Shield's program for education and communication were stressed in 1964. In addition to the Second Annual Symposium in Wichita, a total of 42 meetings were held throughout the state with physicians and their medical assistants. Blue Shield's goal in meetings with physicians was the communication of details involved in major projects and promotions. In some 17 meetings with medical assistants, Blue Shield staff reviewed policies and procedures which affects daily business transactions, stressing methods by which office personnel may assist Blue Shield to better serve their employing physicians.

An important step in communications was taken last fall when a new, updated Participating Physician's Manual—needed for several years—was published. Blue Shield plans a continuing program of maintenance and revision in coming years so that the new manual will continue to serve practical business needs.

Communications with the public and its subscribers were also actively pursued. Over 80 educational meetings were held with group leaders and other representatives of the subscribing public. These were aimed at explaining Blue Cross-Blue Shield philosophy and facts about the present medical economic picture as it relates to the prepayment of health care benefits.

Blue Cross-Blue Shield advertising through mass media was stepped up. Again, the emphasis was upon education related to the need for high level coverage and the advantages of voluntary, non-profit prepayment as a vehicle toward attaining this need. Though expanded in scope, Blue Cross-Blue Shield advertising cost less than one-half of one per cent of total income for the entire year.

Looking Ahead . . .

The new year possesses both promise and challenge for Blue Shield.

New contracts are being issued to all subscribers, providing up-to-date documents that properly state Blue Shield coverage and limitations. Provisions have been added to these contracts which provide means to better direct the payment of the benefit dollar and which protect unnecessary expenditure of dues collected. One of these—the "Nonduplication of Benefits" clause—is aimed at providing full coverage when duplicating group benefits are held by another member of a family, while still insuring that no more than the subscriber's actual costs for health care are paid. The effects of contract improvements will be more meaningful coverage with more careful husbandry of income collected. The challenge will be to educate the public to understand this.

New Blue Shield programs initiated in 1964 are nearing implementation. A plan to pay the physician's reasonable and customary charge was developed with the assistance of the Riley and Geary County Medical Societies. It will soon be placed into operation in that area. If it is successfully received by the public, the plan may be tried elsewhere. Its future promise is great. It may be the answer to a long-sought goal: a high-level service benefit plan which serves the needs of the great majority of both physicians and public. It is also a challenge to Blue Shield and the medical profession: a challenge to work together in cooperation and mutual confidence.

The future of Blue Shield's Deferred Compensation Program, begun in 1964, is as yet undetermined. It is now awaiting an Internal Revenue Service advance ruling. The plan promises much to Blue Shield and doctors. If the Internal Revenue Service rules favorably, as is hoped and expected, Blue Shield will make every effort to seek its acceptance by Participating Physicians and, subsequently, to implement it.

In all, the coming year may be of great importance to Blue Shield's future. If so, it will be of equal importance to the physicians in the Plan area. It is hoped that Blue Shield can count on continuing support and direction from the medical profession during this period.

We wish to thank our readers for taking the time to fill out and return the questionnaire published in the January issue. Your cooperation is appreciated.

—THE JOURNAL



Personalities—IN KANSAS MEDICINE

William C. Menninger, Topeka, was one of the recipients of the 1964 SOPHE citation given by the Society of Public Health Education. The award, presented at a recent luncheon meeting in New York, was given to Dr. Menninger for his contributions to public health education in the prevention, care and treatment of mental illness.

In December, **Warren Phillips**, Kansas City, was elected to head a newly organized committee to care for patients after discharge from the Osawatimie State Hospital. The committee will aid patients in securing proper medicine, outpatient treatment, and employment.

The Saline County Commission confirmed in December the appointment of **O. L. Martin**, Salina, to the Central Kansas Mental Health Board. Dr. Martin will serve for a three-year term.

Vernon Branson, Lawrence, has been named coordinator for the new special treatment center for birth defects which opened at KUMC the first of January.

Lynn J. L'Ecuier recently moved from Greenleaf to Concordia where he has opened his offices in the New Caldwell Building.

Alfred P. Bay, superintendent of the Topeka State Hospital, has announced that a new day treatment service will open at the hospital in early spring under the direction of **Ronald Chen**, Topeka.

Jesse D. Rising, Kansas City, has received an award from the Kansas Heart Association for his work in cardiovascular diseases.

Vernon W. Wiksten, Topeka, was one of the speakers at a Baptist youth rally held in Topeka in December. **William M. Easson**, also of Topeka, was

one of the panelists participating in a discussion session at the meeting.

The Kansas State Board of Health presented a special commendation to **Merlynn Colip**, Norton, and **E. F. Steichen**, Lenora, for their work in connection with the outbreak of botulism in that area in November.

The appointment of **William A. Smiley, Jr.**, Goodland, to the committee on air pollution of the American College of Physicians was announced by the president of the college in December.

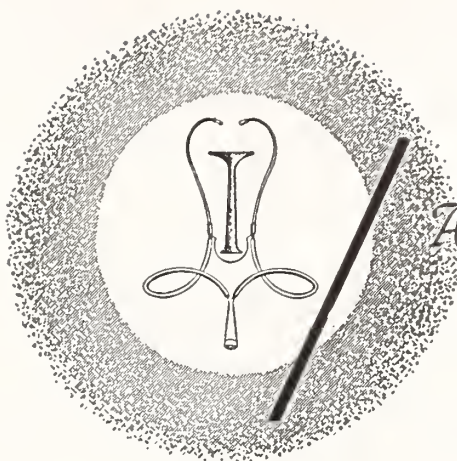
Arnold Nothnagel, Kansas City, was recently elected president of the Providence Hospital medical staff. Others officers are: **A. O. Tetzlaff**, president-elect; **Robert H. Kurth**, vice president; and **Bill A. Gillen**, treasurer.

The medical staff of St. Catherine Hospital, Garden City, has chosen **Robert M. Fenton** president for 1965. Others elected were **John O. Austin**, vice president; and **Frank Eichhorn**, secretary-treasurer. Outgoing president, **H. M. Wiley**, will continue on the executive committee as a representative at large.

New staff officers at Bethany Hospital, Kansas City, are: **Henry B. Sullivan**, president; **H. H. Hesser**, president-elect; **E. C. Sifers**, vice president; and **M. D. Athon**, secretary-treasurer. Members of the executive committee, serving with the newly elected officers are **W. W. Abrams**, **Paul Carpenter**, **Herbert Nason**, and **Doris Kubin**.

The Board of Butler County Commissioners announced in January the reappointment of **Harry Lutz**, Augusta, as director of the Butler-Greenwood Bi-county Health Department.

Fred Schenck, Burlingame, retired the first of January after 43 years of medical practice in that community.



Announcements

Professional meetings, conferences, and postgraduate courses of national importance are listed for the Doctor's Calendar. Notice of the session is posted in advance to allow the physician time to make preparations.

FEBRUARY

- Feb. 19 The American College of Physicians, Kansas Regional Meeting, Topeka. For information: Sloan J. Wilson, M.D., 5618 W. 62nd, Mission, Kansas 66200.
- Feb. 23-26 30th Midwinter Clinical Session, Colorado Medical Society, Hilton Hotel, Denver. Write: Colorado Medical Society, 1809 East 18th Ave., Denver 80218.

MARCH

- Mar. 13-18 Annual teaching seminar, International Academy of Proctology, Jung Hotel, New Orleans.
- Mar. 25-27 Annual meeting, Mid-Central States Orthopaedic Society, Velda Rose Towers, Hot Springs, Arkansas. Write the society at 4101 Westport, Wichita 67212, for more information.
- Mar. 22-26 American College of Physicians (Golden Anniversary Session), Conrad Hilton Hotel, Chicago. Write: Edw. C. Rosenow, Jr., M.D., 4200 Pine Street, Philadelphia 19104.
- Mar. 31-Apr. 2 Symposium on Gastroenterology, Medical College of Georgia, Augusta. Write: Dept. of Continuing Education, Medical College of Georgia, Augusta.

APRIL

- Apr. 5-8 American Industrial Health Conference, Americana Hotel, Bal Harbour (Miami Beach), Florida. For information: American Industrial Health Conference, 55 E. Washington, Chicago 60602.
- Apr. 2-4 Annual meeting, American Society for the Study of Sterility, San Francisco. For registration information write: W. H.

- Robertson, M.D., 2700 Tenth Avenue, South, Birmingham, Alabama 35205.
- Apr. 26-29 American Academy of Pediatrics, Americana Hotel, Bal Harbour (Miami Beach), Florida. Write the American Academy of Pediatrics, 1801 Hinman Avenue, Evanston, Illinois 60204, for information.

POSTGRADUATE COURSES

American College of Physicians.

- Mar. 1-5 *Molecular Biology and Clinical Medicine*, Philadelphia.
- Mar. 8-12 *Recent Advances in Cardiovascular Disease*, New York City.
- Mar. 15-19 *Cardiology*, Atlanta, Georgia.

For additional information and registration write Edward C. Rosenow, Jr., M.D., The American College of Physicians, 4200 Pine Street, Philadelphia 19104. Tuition Fees: Members, \$60; Nonmembers, \$100.

University of Nebraska:

- Mar. 8 *Closed Chest Resuscitation*
- Apr. 5-6 *Pediatrics*
- May 10-11 *Surgery and Trauma*

All courses applicable for Category 1 credit, American Academy of General Practice. For more information write: Director of Continuing Education, University of Nebraska College of Medicine, 42 & Dewey, Omaha 68105.

University of Colorado:

- Mar. 3-5 *Management of Trauma*
- Mar. 15-19 *Medical Technology*
- Apr. 15-17 *Clinical Dermatology* (registration limited to 32)
- Apr. 26-30 *Cardio-Pulmonary Diseases* (ACP Course)

(Continued on page 112)



Along The BOOKSHELF

Important Recent Acquisitions in the History Of Medicine Collection—Clendening Medical Library

- Harvey, William. [Opera. . . .] [Lugduni Batavorum, Apud Johannem van Kerckhem, 1737.]
- Pole, Thomas. The anatomical instructor. . . . London, Printed by Couchman and Fry; and sold by the author; and by W. Darton, 1790.
- Kircher, Athanasius. Magnes sive De arte magnetica. . . . Ed. 3a. . . . Romae, Sumptibus Blasii Deuersin, & Zanobii Masotti Bibliopolarum; Typis Vitalis Mascardi, 1654.
- Kircher, Athanasius. Lingua aegyptiaca restituta opus tripartitum. . . . Romae, Sumptibus Hermanni Scheus; Apud Ludovicum Grignanum, 1643.
- Hartley, David. A view of the present evidence for and against Mrs. Stephens's medicines. . . . London, Printed for S. Harding; J. Robinson; and J. Roberts, 1739.
- Ruston, Thomas. An essay on inoculation for the smallpox. . . . With an appendix. . . . London, Printed for J. Payne, 1767.
- Latta, James. A practical system of surgery. . . . Edinburgh, Printed for G. Mudie, A. Guthrie, and J. Fairbairn; and London, for J. Johnson, and Ogilvie & Speare, 1795. 3 v.
- Aurelianus, Caelius. De acutis morbis. Lib. III. De diuturnis. Lib. V. . . . Lugduni, Apud Guliel. Rouillium, 1569.
- Celsus, Aulus Cornelius. Medicinae libri octo ex recensione Leonardi Tragrae. Patavii, Typis Seminarii; Apud Joannem Manfrè, 1769.
- Huxham, John. Essai sur les différentes espèces de fièvres, avec plusieurs autres traités. . . . Nouvelle éd. . . . Paris, Chez D'Houry, 1768.
- Sydenham, Thomas. Opera omnia medica. . . . Patavii, Typis Seminarri; Apud Joannem Manfrè, 1725.
- South Kansas Medical Society. Constitution and by-laws. . . . Winfield, Kan., Monitor Book and Job Print, 1880.
- Fabricius, Hieronymus, ab Aquapendente. Opera chirurgica, in duas partes divisa. . . . Lugduni, Ex Officina Joannis Pillehotte, Sumpt. Joannis Caffin, & Francisci Plaignard, 1628.
- Hodges, Nathaniel. Loimologia: or, An historical account of the plague in London in 1665. . . . The 2nd ed. London, Printed for E. Bell; and J. Osborn, 1720.
- [La Calmette, François de]. Riverius reformatus. . . . Transl. from the 3rd ed. in Latin. By a doctor of physick. London, Printed for R. Wellington, 1706.
- Scribonius Largus. Compositiones medicae. Joannes Rhodius recensuit. . . . Patavii, Typis Pauli Frambotti Bibliopolarum, 1655.
- Siegemundi, geb. Dittrichim, Justine. Die Königl. Preussische und Chur-Brandenb. Hof-Wehe-Mutter. . . . Berlyn, zu finden bey Christian Friedrich Voss, 1756.
- Linné, Carl von. Materies medica liber. II. De animalibus. Et III. De mineralibus. . . . Holmiae, 1763.
- Nightingale, Florence. Notes on nursing. . . . Boston, William Carter, 1860.
- Pavlov, Ivan P. The work of the digestive glands. . . . Transl. into English by W. H. Thompson. London, Charles Griffin, 1902.
- Reeve, Henry. [Diploma of College of Physicians. . . .] Londini, 1807. (MS)
- Reeve, Henry. [Diploma of Edinburgh University Faculty of Medicine. . . .] Edinburgi, 1803. (MS)

(Continued on page 112)



Book REVIEWS

CECIL-LOEB TEXTBOOK OF MEDICINE, 11th Edition, edited by Paul B. Beeson, M.D., and Walsh McDermott, M.D. W. B. Saunders Company, Philadelphia, 1963. 1835 pages illustrated. \$19.50.

This classic, which has been edited every four years, is now on its 11th edition with new editors, but with the same type of format—"The Cecil formulas." The major goals set forth by the editors of this textbook—to provide for the physician and medical student a discriminating authority to supply our greater or lesser needs—has been accomplished exceedingly well. Each section is reviewed, not only from the fundamental and mechanical aspects of disease, but the clinical course and many of the subtle clinical and biochemical manifestations, as well as the overall management and prevention. Some mention of almost any disease or syndrome falling within the field of medicine is likely to be found in this edition. The old aspect of geographical disease has been rapidly abolished due to the world travel of our local populations. On this basis many of the sections have been expanded to include some of the diseases which we did not encounter before. There are 70 new contributors, with a complete new section on diseases of the blood and a new format for the digestive tract. The field of endocrinology and metabolic disease is one of the exceptional sections of this edition.

The bibliographies are complete. Many of the sections do not deal primarily with the amount of material in relation to the occurrence rate of the disease, but the more interested students may use the supplementary bibliography material. This is a great improvement over the previous edition and presents the latest material available by different experts.

This book is highly recommended for all students and practitioners who need to fill in some of the

deficits that we all have and to expand our limited knowledge.—R.C.L.

REVIEW OF PHYSIOLOGICAL CHEMISTRY by Harold A. Harper, Ph.D. Lange Medical Publications, Los Altos, California, 1963. 437 pages. \$6.00.

The phenomenal advances in the field of biochemistry have carried this subject far beyond the material taught in medical schools ten or more years ago, and pose a major challenge to the most recent graduate as well as the present student. The current literature on the subject is so voluminous and scattered that a concise summary is almost essential to the occasional inquirer and the physician who needs updating on short notice. The volume reviewed here seems to fill this need admirably.

This volume covers in order the basic chemical substances in the body, the fundamental chemical processes, and then the physiologic chemistry of the various body systems. Each chapter is precisely organized; the material is presented concisely and clearly with numerous diagrams of chemical formulae and reactions. A short, but pertinent, and reasonably up-to-date bibliography is appended. The information is presented briefly, but quite adequately, and with frequent helpful cross-references. A good index is provided; there is frequent discussion of pertinent clinical problems and explanation of specific disease states. The book is paper-backed, printed on good paper with clear type and seems unusually free of typographical errors.

This volume should be in any ready-reference library, should be very helpful to any medical student or those who are studying for board examinations, and would provide an inexpensive source of a great deal of information for the practicing physician.—J.E.S.

(Continued on page 113)

KANSAS STATE DEPARTMENT OF HEALTH

TOPEKA, KANSAS

Division of Preventable Diseases—Division of Vital Statistics—Kansas Morbidity Incidence
Summary of Cases Reported in October, 1964 and 1963

<i>Diseases</i>	<i>October</i>			<i>January to October Inclusive</i>		
	1964	1963	<i>5-Year Median 1960-1964</i>	1964	1963	<i>5-Year Median 1960-1964</i>
Amebiasis	4	5	5	25	83	44
Aseptic meningitis	10	—	3	21	—	21
Brucellosis	1	—	1	3	6	14
Cancer	368	361	438	3,798	3,998	3,798
Diphtheria	—	—	—	3	—	—
Encephalitis, infectious	17	1	4	78	12	25
Gonorrhea	276	299	262	2,672	2,490	2,373
Hepatitis, infectious	45	24	25	558	219	394
Meningitis, meningococcal	—	—	1	8	11	12
Pertussis	—	3	2	15	67	37
Poliomyelitis	—	—	—	1	—	1
Rheumatic fever	—	—	—	3	—	3
Salmonellosis	34	40	34	253	238	238
Scarlet fever	5	4	20	84	288	435
Shigellosis	24	15	15	240	60	127
Streptococcal infections	155	162	125	1,386	1,237	1,148
Syphilis	90	120	106	788	923	990
Tinea capitis	5	4	14	70	60	106
Tuberculosis	18	21	18	217	242	224
Tularemia	—	1	1	4	16	13
Typhoid fever	—	—	—	3	2	3

RABIES IN KANSAS

To date in Kansas, 34 confirmed cases of rabies in animals have been reported. Twenty-seven of these cases (79 per cent) have been skunks. Other animals involved have included cats, rats, squirrels, and cows. This is the largest number of confirmed cases in Kansas since 1956.

Rabies (hydrophobia) is an almost invariably fatal acute encephalitis. Reservoirs for the rabies virus include a large group of wildlife animals, particularly the skunks, civet cats, fox, coyote, wolf, bat, raccoon, and other biting mammals. Urban rabies is a problem of dogs and occasionally other pets; sylvatic or rural rabies primarily involves wild biting animals, with sporadic infection of dogs and domestic livestock.

The infectious agent—the virus of rabies—is found in the saliva of rabid animals. The mode of transmission, therefore, is by the infected animal's bite or rarely, by saliva of such animals entering a scratch or other fresh break in the skin. Transmission from man to man is conceivably possible, but has not been con-

firmed; however, the saliva of an infected person is known to be infectious.

The incubation period is usually two to six weeks, occasionally longer. The period of communicability, in the dog and most biting animals is for three to five days before the onset of frank clinical signs, and during the course of the disease. All mammals are generally susceptible—natural immunity is unknown in man. Antirabic vaccination induces active immunity in man and dogs.

Mass immunization of humans against rabies is neither practical nor desired—the series of injections needed, and the possibility of post vaccinal encephalitis are among the considerations involved. On the other hand, the use of the vaccine prophylactically in high risk groups, such as veterinarians, dog control officers, zoo keepers, etc. is considered desirable.

Primary emphasis should be placed on preventive vaccination of dogs. In this respect, attenuated live vaccines administered intramuscularly confer longer-lasting immunity than inactivated vaccines.

Control of rabies, in addition to appropriate wild-

life conservation programs, should consist of widespread vaccination of dogs, public education of the need for registration, licensing, and restriction of owned dogs, particularly in urban areas, and provision to eliminate stray dogs. The public and law-enforcement agencies alike should be aware of the importance of immediate medical attention when an individual is bitten by a dog or other potential carrier. Animals that have inflicted bites or are suspected of having rabies should be confined and observed for ten days. Such animals should not be destroyed until active rabies is established, preferably by a veterinarian. Rabid animals usually have a change in behavior, with excitability or paralysis, followed by death. If the animal is infective at the time of the bite, signs and symptoms of rabies will follow within this ten day period. At the first sign or laboratory evidence of rabies in the observed animal, vaccine should be given to the exposed person. If the wounds are severe, and particularly about the head and neck, vaccine should be started immediately.

Unvaccinated dogs or cats bitten by known rabid animals should be destroyed or detained in an approved pound or kennel for six months. If the bitten animal has previously been vaccinated, it should be re-vaccinated and restrained for 30 days.

Emphasis should be placed upon the importance of not immediately destroying animals in captivity that are suspected of having rabies and have bitten other animals or persons. In the event that the suspected animal dies or is killed, it should be immediately decapitated, and the head packed in ice and sent for laboratory examination. Confirmation of rabies is by demonstration of Negri bodies in nerve cells and by animal inoculation with demonstration of virus. The use of the fluorescent antibody laboratory technique has greatly facilitated the identification of rabies in suspect animals.

Situations have been reported wherein the suspected animals—usually a dog—has been destroyed before the vital observation period has been completed or even begun. Frequently in these cases, the brain tissue has become too decomposed for laboratory examination to be of value. Both the animal's victim and the attending physician are therefore placed in a precarious position.

Every animal's bite should be carefully evaluated on an individual basis. This should include the type of animal involved, whether exposure to wildlife animals could have occurred, the incidence of rabies by species in an area, whether provocation of the animal prior to the biting incident occurred, whether a change in the animal's demeanor preceded the attack, and the nature, location, and severity of the wound.

Bookshelf

(Continued from page 109)

- McCaul, Ethel. Letters. 1892-1921. ca. 87 items (1 box). (MS)
- Lycosthenes, Conrad. *Prodigiorum ac ostentorum chronicon*. . . . Basileae, per H. Petri, 1557.
- Bertin, René J. H. Treatise on the diseases of the heart, and great vessels. By R. J. Bertin. Ed. by J. Bouillaud. Tr. from the French, by Charles W. Chauncy. Philadelphia, Carey, Lea & Blanchard, 1833.

Announcements

(Continued from page 108)

For further information write Office of Postgraduate Medical Education, University of Colorado School of Medicine, 4200 E. 9th Ave., Denver 80220.

University of Kansas:

- | | |
|------------|-----------------------|
| Mar. 8-10 | <i>Pediatrics</i> |
| Mar. 22-25 | <i>Surgery</i> |
| Apr. 5-7 | <i>Ophthalmology</i> |
| Apr. 8-9 | <i>The Heart</i> |
| Apr. 21-23 | <i>Anesthesiology</i> |

Write the Department of Postgraduate Medical Education, University of Kansas Medical Center, Rainbow Blvd. at 39th, Kansas City, Kansas 66103.

CHANGE OF ADDRESS

Please notify the
Kansas Medical Society
of any changes in address

*Help keep the mailing list
up to date*

NOMINATING COMMITTEE

The Nominating Committee met in Topeka on Sunday, January 17, 1965, and submits the following names as candidates for the elective offices of the Kansas Medical Society:

President

George E. Burket, Jr., M.D., Kingman. Born in 1912. Graduated from the University of Kansas School of Medicine in 1937. Has held various offices and was chairman of Society committees.

President-Elect

James A. McClure, M.D., Topeka. Born in 1918. Graduated from University of Kansas School of Medicine in 1944. Has served as councilor and chairman of Society committees.

First Vice President

George F. Gsell, M.D., Wichita. Born in 1907. Graduated from Rush Medical College in 1933. Has served as councilor and AMA Delegate.

Second Vice President

Ralph G. Ball, M.D., Manhattan. Born in 1903. Graduated from University of Kansas Medical School in 1927. Is currently serving as councilor.

Glenn E. Kessebaum, M.D., Eldorado. Born in 1898. Graduated from Northwestern University School of Medicine in 1923. Has served as committee chairman.

J. Warren Manley, M.D., Kansas City. Born in 1907. Graduated from University of Kansas School of Medicine in 1940. Has served as committee chairman and councilor.

John L. Morgan, M.D., Emporia. Born in 1915. Graduated from University of Pennsylvania School of Medicine in 1940. Is currently serving as councilor.

Edward F. Steichen, M.D., Lenora. Born in 1905. Graduated from Rush Medical College in 1931. Is currently serving as councilor.

Secretary

Kenneth L. Graham, M.D., Leavenworth. Born in 1921. Graduated from Ohio State University School of Medicine in 1945. Has served as committee chairman.

Leland Speer, M.D., Kansas City. Born in 1912. Graduated from the University of Kansas School of Medicine in 1936. Is currently serving as Secretary.

Treasurer

John L. Lattimore, M.D., Topeka. Born in 1894.

Graduated from Fort Worth School of Medicine in 1918. Is currently serving as Treasurer.

AMA Delegate

Clyde W. Miller, M.D., Wichita. Born in 1909. Graduated from University of Louisville School of Medicine in 1936. Is currently serving as AMA Delegate.

John C. Mitchell, M.D., Salina. Born in 1913. Graduated from University of Kansas School of Medicine in 1938. Is currently serving as President.

Alternate AMA Delegate

William J. Reals, M.D., Wichita. Born in 1920. Graduated from Creighton University School of Medicine in 1945. Is currently serving as councilor and Alternate AMA Delegate.

Evan R. Williams, M.D., Dodge City. Born in 1925. Graduated from Northwestern University School of Medicine in 1952. Is currently councilor and has served on Society committees.

Book Reviews

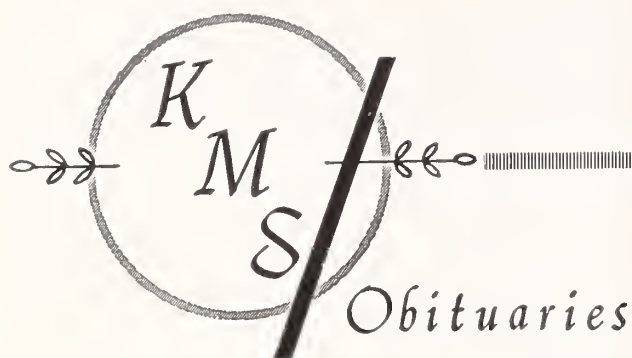
(Continued from page 110)

COUNSELING IN MEDICAL GENETICS
by Sheldon C. Reed, Ph.D. W. B. Saunders Company, Philadelphia, 1963. 278 pages. \$5.50.

This is a very useful, small, easy to read volume. This book is very helpful to any physician who feels that he has been left behind by the rapid advances in the field of heredity. Dr. Reed explains current concepts quite clearly with easily understood examples which require only a minimum knowledge of genetic mechanisms. Each term is carefully defined so the reader is not lost in the genetic vocabulary, which can be quite formidable. The biostatistical material is also very meaningful to the unsophisticated reader.

As one reads through the volume, the theme of the book becomes increasingly clear. When confronted with a defective child, a physician and parent alike need to be informed as to what is known about the particular entity. The question of the probability of the defect occurring in future progeny can be answered with a great deal more intelligence than was once possible. This information is given for a number of clinical conditions. Illustrative examples follow each chapter to aid in applying the background material. The book is to be highly recommended as a referral source of useful information to both the physician who deals with children and parent who must face this problem.

The volume will become a part of the collection of the Stormont Medical Library.—A.C.C.



WILLIAM R. BEINE, M.D.

William R. Beine, 53, a physician in Coffeyville since 1946, died December 18, 1964, in Coffeyville Memorial Hospital.

Dr. Beine was born August 13, 1911, at Alton, Illinois, and as a child moved to Coffeyville with his parents. He was graduated from Washington University School of Medicine in St. Louis in 1941, and interned at Fresno, California, General Hospital. After serving with the Navy during World War II, he returned to Coffeyville to establish his practice.

Survivors include his wife and three children.

HENRY B. HOGEBOOM, M.D.

Henry B. Hogeboom, Bethel Park, Pennsylvania, died November 11, 1964, at the age of 91.

He was born August 12, 1873, at Oskaloosa, and moved to Topeka with his parents in 1879. He attended the University of Kansas where he was graduated with a degree in pharmacy in 1894, and received his medical degree from Rush Medical College, Chicago, in 1896. After practicing for a short while in Fort Madison, Iowa, Dr. Hogeboom returned to Topeka in 1897 and continued his practice there until his retirement in 1955.

Dr. Hogeboom is survived by a daughter and three grandchildren.

HARRY W. HORN, M.D.

Harry W. Horn, 90, Wichita, died on December 11, 1964, at Wesley Medical Center in Wichita.

Born at Wooster, Ohio, on August 24, 1874, he was graduated from the College of Wooster in 1895 and entered Rush Medical School, receiving his doctor of medicine degree in 1898. After graduate work in surgery in Vienna and Berlin, he began his practice in Wichita in 1909. In 1910 he became chief surgeon at Wichita Hospital and served as local surgeon for the Santa Fe Railway. He served in the medical corps during World War I, returning to Wichita to resume medical practice in 1919.

A son and two grandchildren survive Dr. Horn.

GEORGE R. LEE, M.D.

George R. Lee, Yates Center, died at the Allen County Hospital in Iola on November 12, 1964. He was 65 years old.

Dr. Lee was born October 2, 1899, at Toronto, Kansas. After attending the College of Emporia, he entered the University of Kansas School of Medicine and received his medical degree in 1924. He was a veteran of both world wars. Dr. Lee was a member of professional and service organizations, and served as the local physician for the Missouri Pacific Railroad and medical advisor for the Woodson County Cancer Society.

He is survived by his wife and four daughters.

HAROLD E. MORGAN, M.D.

Harold E. Morgan, 58, Newton, died November 23, 1964, in Newton.

Dr. Morgan was born August 23, 1906, at Lamoni, Iowa, and had lived in Newton since 1940. After receiving his medical degree from the University of Kansas School of Medicine in 1931 he entered Washington University in St. Louis, specializing in ophthalmology. He became associated with the Bethel Clinic at Newton in 1940 and in 1945 started his own practice. Dr. Morgan was active in civic affairs and was a member of several community organizations.

Survivors include his wife and a son.

LEO J. SCHAEFER, SR., M.D.

Leo J. Schaefer died November 26, 1964, at his home in Salina. He was 66 years old.

He was born in Hays on March 15, 1898. He was a 1922 graduate of the St. Louis University School of Medicine and interned in Chicago. Dr. Schaefer came to Salina in 1925 after practicing for a short time in Great Bend. He was a member of civic, church, and medical organizations.

Surviving Dr. Schaefer are his wife and four children.

HERMAN SCHAUMLOFFEL, M.D.

Herman G. Schaumloffel, 89, retired Burrton physician, died December 16, 1964, at a rest home in Kansas City, Missouri.

Born July 23, 1875, in Swatow, China, Dr. Schaumloffel received his elementary education in Oldenberg, Germany. At the age of 17 he went to San Francisco and later to Los Angeles where he was graduated from the California Eclectic Medical College in 1905. He moved to Kansas in 1907 and was engaged in medical practice for 50 years.

Dr. Schaumloffel is survived by his wife, a son and a daughter.

MAURICE SNYDER, M.D.

Maurice Snyder, 60, Salina, died at his home on November 30, 1964.

Dr. Snyder was born at Logan on December 30, 1903. He was graduated from the University of Kansas School of Medicine in 1930. He served in the medical corps during World War II. Dr. Snyder had been in practice in Salina for 25 years.

He is survived by three brothers and two sisters.

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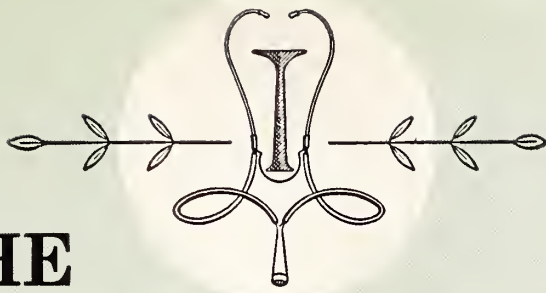
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*Lennox, W. G.: *Epilepsy and Related Disorders*, Boston, Little, Brown and Company, 1960, vol. 2, p. 865.

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The JOURNAL of the KANSAS MEDICAL SOCIETY

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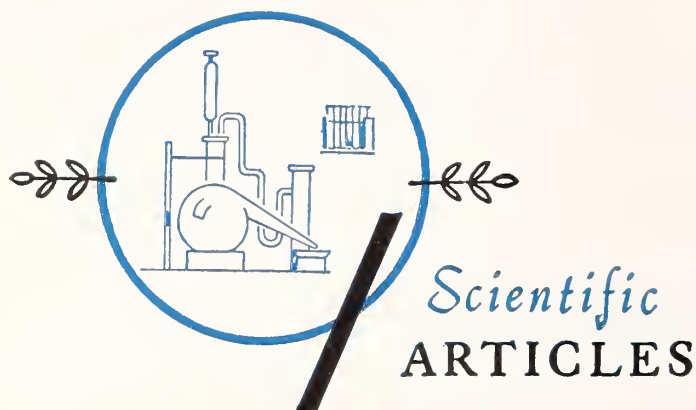
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KUMC ISSUE

It is with pleasure that the Editorial Board presents the nineteenth annual KUMC issue.

This special presentation could not be possible without the continued assistance of Jesse D. Rising, M.D., who again undertook the responsibility of soliciting, assembling, and editing the papers published here, and we are indeed grateful for his cooperation.

We would like to thank also the contributors to this issue—one which we feel contains informative and useful material which will be of interest to our members.



Man of All Work

The Medical School Field Representative

JESSE D. RISING, M.D.,* *Kansas City, Kansas*

PRESENT DAY MEDICAL EDUCATORS are faced with the disconcerting fact that the body of medical knowledge is so vast that it is simply impossible to impart to their students any more than the bare fundamentals of medicine during the period of formal training which includes the undergraduate years, the internship and the residency. Not only is it impossible to prepare students fully for any of the fields of medical practice, but the rapidity of increase in medical knowledge soon renders even the best medical education obsolete. For these reasons it has, in recent years, been increasingly apparent that all physicians must continue their education as a lifelong process, and one might say that the doctorate degree in medicine is merely a license to embark upon a lifetime career in the study of medicine. It is perhaps some consolation to medical educators that they need not, when designing their various programs, attempt the impossible—producing finished products at the end of any of the steps of the formal process of education.

When looked at in this way, it becomes obvious that continuing medical education, which is currently only beginning to receive the attention which it deserves, will of necessity become increasingly important. Professional medical educators have an obligation

to give leadership in the continuing education of physicians, and this means that medical faculties, especially those in tax supported schools, owe it to the public and to the profession to assume the primary responsibility for this phase of education. They,

One of the obligations of a medical school is to assume its full share of responsibility for continuing education of physicians. Experience at KUMC has indicated that medical school field representatives are not only helpful but essential in carrying on this program.

as professional educators, are the only ones in a position to give it the attention that it deserves. Furthermore, physicians look to medical schools as a prime source of authoritative information. If medical schools are to make their proper contribution it is essential for them to make a major commitment to continuing medical education and this means, among other things, that the schools must make a significant (albeit modest in comparison to other educational programs) financial commitment. The commitment of the medical school must include the establishment

* Chairman of the Department of Postgraduate Medical Education, the University of Kansas School of Medicine.

of a basic organization, since it has repeatedly been demonstrated that continuing education is not carried out with maximum efficiency or effectiveness by a committee or by an assistant dean who has it as one of his many assignments.

The experience of successful programs in continuing medical education indicates that the basic organization for such a venture includes the full-time services of an academic chairman who should be a physician, and that this chairman can be most effective when assisted by a full-time executive secretary. There must, of course, be an office staff, projectionist, and others who help attend to the details of the program, and it is desirable to have an assistant secretary to supervise their work. Finally, and this is the major subject of this paper, it is my thesis that the continuation education organization needs field representatives to serve as representatives not only of the department of continuing education but of the entire medical school.

The Department of Postgraduate Medical Education at the University of Kansas has two of these representatives or "detail men" who have proved to be of great value to it. Their activities are perhaps best outlined in two major categories: (a) out-state duties, and (b) functions that they perform on-campus.

One of the major out-state activities of the field representative is to visit all of the physicians in the immediate area of responsibility of the medical school (the state of Kansas) to promote circuit courses, symposia, and our other postgraduate activities. While doing this they serve as personal representatives of the medical school to the individual physicians in our state. They answer doctors' questions concerning not only postgraduate courses but all activities of the medical school. Just as important, they act as personal representatives of each physician to the medical school in the event that he has any requests to make or any complaints to lodge. The field representatives attend such meetings of orga-

nized medicine as the annual session of the Kansas Medical Society, the meetings of the state chapter of the American Academy of General Practice, and as many meetings of county medical societies as possible. At such times they not only promote the postgraduate programs of the school but also continue their public relations functions.

Kansas has long been known for its circuit courses which, although they account for slightly less than 15 per cent of our total physician enrollment in continuing education, continue to be exceedingly effective as educational ventures both for the students and for the faculty. They represent a major manifestation of



Figure 2. Field representative unloading faculty members at a motel in a Circuit Course town.



Figure 1. Field representative calling on a doctor out in the state.

the partnership between the medical school and the physicians in private practice. It is obvious, therefore, that our field representatives spend much of their time in connection with these off-campus circuit programs. For these they make preliminary arrangements with medical organizations in the various areas of the state; and, taking into consideration the wishes of the potential student body as well as the medical school, they make all arrangements for facilities for the programs. This includes not only reserving appropriate meeting rooms (preferably in a hospital or other medical facility) but also arranging for adequate meals to be served at a convenient place and at an appropriate time in each circuit center.

When presenting off-campus programs it is essential that faculty members be comfortably housed, and

it is one of the field representative's responsibilities to attend to this.

Anyone who has presented a program, or even a lecture, away from his own institution knows that it is hazardous to depend upon materials and equipment to be furnished locally, and it is therefore the field representative's duty to prepare, assemble, and transport all needed equipment from the medical school to the places at which programs are to be presented. The field representative, after he has loaded his station wagon with this equipment, picks up the members of the faculty and undertakes to deliver them safely and on time to the towns at which programs are to be presented. Here he checks them into their motel or hotel, and sees that they are adequately fed before delivering the faculty members and the equipment to the meeting place where he prepares the meeting room, and sets up the equipment and the promotional materials.

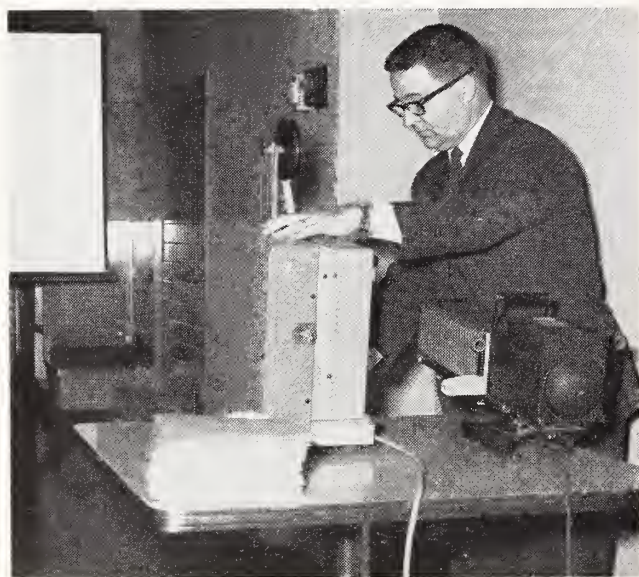


Figure 3. Field representative setting up projection equipment in a Circuit Course meeting place.

During the educational program he acts as the master of ceremonies and projectionist, and he handles the inevitable multitude of details so that faculty men are not bothered by minutia. In addition to all this he acts as registrar, enrolling physicians, collecting fees, and keeping attendance records. At appropriate times he promotes other programs in continuing education offered by the medical school, and—as always—continues his public relations work.

Not all phases of education are pure work, and the field representatives take charge of arrangements for social functions that may take place in the evening following the presentation of the educational program. This requires no little finesse since these ar-

rangements must satisfy not only the local physicians but also the faculty members if a cordial feeling is to be fostered between the practicing physician and their academic colleagues.

Physicians in general, and probably those in education in particular, are notably inept in fiscal matters, and the field representative is helpful to them in keeping their expense records and making out expense vouchers for them.

In addition to the off-campus programs, on-campus activities necessarily occupy a fair amount of the field representatives' time. Among their primary duties at the end of the academic year are to analyze enrollment statistics and plan a schedule of visitations to doctors for the next year. The field representatives also give invaluable help in presenting on-campus courses. They assemble teaching materials and special equipment for each program, and they test and inspect audio-visual equipment to be certain that every-



Figure 4. Field representative helping with registration at an on-campus course.

thing is functioning properly before each course begins.

During the presentation of formal courses the field representatives monitor the audio equipment, help faculty members with their slides, moving picture films, etc., and see that the projectionist has all of these materials and the proper instructions for their use. They also help supervise coffee breaks and meal breaks so that enrollees are served promptly and returned to the auditorium at the proper time so that the program can proceed on schedule. Field representatives also relieve the registrar and other personnel of the postgraduate office. They may be called upon to meet guest speakers at or deliver them to the air-



Figure 5. Field representative receiving slides and instructions for transmission to the projectionist at an on-campus course.

ports, railroad stations, etc. As always, of course, they continue to promote other postgraduate programs, and—almost unconsciously—serve their public relations functions.

After courses have been completed the field representatives do the necessary statistical operations for the self-analysis that is so important to the department, and help gather and arrange material for the department's annual report.

In addition to the primary duties listed above there are many things that the field representatives do to help further the work of the department, so many that only a few of the more important ones will be mentioned. For one thing they help to prepare ma-



Figure 6. Field representative analyzing past records and planning next year's visits to doctors.

terial for the printer, check proof, and even pick up finished work from the printer so as to avoid unnecessary delays in transportation. They help assemble promotional materials, deliver them to "stuffers," and then to the post office. Daily emergencies are a way of life in a field such as ours, and the representatives are available to help the office staff meet these crises when "overload" help is needed in any area.

In planning postgraduate courses it is important for the department chairman to meet with the chairmen of other departments and with other faculty members who may be asked for advice or to participate in programs. The field representatives help to arrange such meetings and assist in their conduct in many important ways. They also contribute ideas at policy meetings within the department, between the department and other departments in the school, and with organized medicine. These ideas, being based on field experience and interviews with individual prac-



Figure 7. Field representative getting printed matter at the press to facilitate delivery.

ticing physicians within the state, have special importance.

In conclusion, it is the obligation of medical schools to assume their full share of responsibility for the continuing education of physicians. In order to do this a basic organization devoted to this activity is of the highest importance. In addition to the basic administrative personnel, our experience has indicated that department—or more properly medical school—field representatives are not only helpful but are virtually essential.

Anatomy—Vesalius to 1965

The Study of Anatomy: Current Perspectives at KUMC

HOWARD A. MATZKE, Ph.D., ROBERT H. GEERTSMA, Ph.D.,
and CHARLES F. BRIDGMAN, Ph.D., *Kansas City, Kansas*

Problems in the Study of Anatomy

TWO YEARS AGO the anatomy portion of the medical school curriculum was taught for the first time at the medical school in Kansas City. The succeeding years have seen not just new physical surroundings, but an intensive effort to provide an improved learning environment in which students would be more effectively stimulated and aided in their learning efforts. This presentation is addressed to the problems of teaching and learning anatomy, and will describe the work and perspectives currently being elaborated at KUMC by the Departments of Anatomy and Medical Communication. Guidelines for our innovations in the teaching of anatomy have been provided by consideration both of the nature of the subject matter and of the conditions under which it must be learned and is likely to be applied. More concretely, we begin with the observation that the study of anatomy has always provided learners with several distinctive challenges, namely:

- (1) A subject matter of primarily visual character;
- (2) An extraordinary complexity of morphological relationships; and
- (3) The necessity of interrelating morphological knowledge with the understanding of function.

Both the historical development of scientific anatomy and the learning problems of present-day students of anatomy can be referred to the above three considerations. Let us begin with the historical perspective.

An Historical Perspective

Three stages are discernible in the development and study of anatomy as a science: the beginnings, a classical period, and a period of integration with related disciplines. Although curiosity about the internal construction and workings of the human body may be assumed to have existed from mankind's earliest days, anatomy traces its scientific beginnings only to the middle ages. Medieval man's ignorance about himself and his environment was associated with a heightened sense of the world's mystery. The result was a natural desire to penetrate the occult. The medieval preoccupation with the arcane was in itself not historically

unique, but it provided the context for the exercise of the impressive and characteristic genius of this period for resolving the mysteries of life, death, theology, etc. by giving them some form of concrete representation. Because of its emphasis on visualization, representation, and concretization, this period has been called the first age of the visible.¹ Representations of death, of philosophical and religious ideas, even though at times grotesque, were impressive and well expressed medieval man's desire to record graphically

The study of anatomy has been vitalized by the use of modern methods of communication—television, motion pictures, classroom analyzer—all in the service of instructional techniques enabling present-day students to see better, to master complexities more surely, and to relate growing anatomical understanding to other basic and clinical sciences.

what had been experienced. The artist-dissector could make his observations on the body and record them for others to see and to study. The inauguration of the scientific discipline of anatomy needed only the advent of a careful and accurate observer, a role amply fulfilled in the person of Vesalius. In this first age of the visible, the student's problem was simply to explore and visualize those aspects of the body ordinarily hidden from view.

Following the incunabular stage of anatomy we can identify a classical period. In some locations this period can be said to exist even to the present day because it has never been supplanted by further progress. The classical perspective emphasizes the classification and ordering of complex morphological relationships. Completeness and systematization are cardinal virtues. Mastery of great quantities of anatomical detail is required more or less for the purpose of such mastery itself. For the student this implies that

memorization and recognition become primary goals. Many present-day physicians studied anatomy under this system and can recall vivid, plaintive, and sometimes provocative memories of its demands.

Finally, we arrive at the most advanced period in the study of anatomy. This stage is distinguished by consideration of the interrelationships between morphological knowledge and knowledge from embryological, physiological, biochemical, and behavioral disciplines. Its emphasis falls on the relationship of morphology to dynamic life processes. Function adds meaning and emphasis to structure. The student's task is to understand anatomy in its total bioscientific context.

The Necessity to Visualize, Simplify, and Interrelate

The learning task of the present-day student of anatomy encompasses all of the aforementioned segments of scientific history. The student must observe by visualizing, he must master complex detail, and he must interrelate. The current program of teaching anatomy at KUMC includes particular adaptation to each of these problems faced by the learner. To begin, the learner's need to observe the primary visual subject matter of anatomy is confronted by providing means for communicating to each student a focused and completely elaborated visual demonstration of much of the anatomical dissection work. This is accomplished through the medium of closed circuit television, with the videotape recorder providing its memory function. Further, the student is exposed to various, often purposely repetitious, types of experiences utilizing different visual media so that he has an opportunity to absorb what he can from each, can overlearn what seems required, and can emphasize those aspects which seem most useful to him in the light of his individual learning proclivities and purposes. The context in which the student works and learns provides him with a controlled sequence of multi-media visual experiences and thinking exercises designed to permit him to see with advantage all important aspects of the subject matter before him.

The solution to the problem of the complexity of anatomical data lies in its simplification, particularly in early stages of learning, in terms of modern concepts of what is significant histologically, embryologically, physiologically, behaviorally, and in its potential usefulness to the practice of medicine. Beginning students of anatomy are presented with general and practical perspectives regarding anatomical areas and structures, so that they become familiar with what is important and in what respects it is important. With the development of these conceptual landmarks, the student is enabled to approach gradually the otherwise baffling complexity of reality with-

out becoming lost in its obfuscating detail. In this fashion, the potential information input overload, which all too often plagues the student of anatomy, is circumvented by providing him with the adaptive response of filtering the data he receives in terms of some systematic and useful perspective.

The student's problem in relating anatomical knowledge to his understanding of the other sciences basic to medicine is approached through a number of procedures. First, anatomy is taught late in the first year program, so that the student has had opportunity to make some acquaintance with the disciplines of physiology and biochemistry. Secondly, guest prosecutors, lecturers, and clinical correlators participate frequently in the teaching. Much of the illustration and demonstration of such interrelationships is accomplished by members of the clinical faculty in their discussions of clinical applications and considerations relevant to the student's anatomical studies. Live patients are demonstrated whenever possible. Finally, the Department of Anatomy teaching staff endeavors to emphasize a correlational or interrelational point of view in order to help the students develop such a perspective.

A Day in the Student's Study of Anatomy

The above purposes are accomplished variously. No longer do students sit passively through lectures, after which they enter the dissection laboratories to work through the day's dissection with the aid of a laboratory manual and a lab instructor summoned at times of maximum bewilderment. The lectures and dissection rooms are still used, but the student's learning environment has changed. To indicate the direction and extent of this change, let us summarize what might be the experience of a student, one out of 115 first-year students, as he goes through a day as a student of anatomy.

Early in the morning, our medical student presents himself to the dissection laboratory. At his bench space he finds the anatomical specimen for the day's dissection, the cerebral cortex. A television monitor is mounted high in the corner of the room. At a "good morning" from the loud speaker, our student and some 15 other students in his laboratory, as well as the students in five similar laboratories, turn their eyes to the monitor before them. The professor of anatomy appears on the television screen and begins to explain the day's dissection, which pertains to the pyramidal system (*Figure 1*). A general orientation to the external surface of the brain is given, followed by diagrams indicating areas to be dissected. The work is outlined in terms of fundamentals and landmarks. Then, under every pair of the watchful 230 eyes, the demonstrator begins his dissection by exposing the lateral fissure and proceeding medially. After



Figure 1. The professor readies himself to begin a televised dissection.

some five minutes, the first phase of the demonstration is ended and the students are asked to carry their dissection through the demonstrated steps. Our student proceeds to work through his own dissection, drawing on his memory of the demonstration, using his laboratory manual as a reference, and enlisting the help of a laboratory instructor when needed. The instructors in each laboratory note problems encountered by the students and communicate the general progress of the students' dissections to the television demonstrator so that he may give special attention to the most difficult aspects of the work. After all students have brought their own dissections up to the point at which the televised dissection left off, the professor again appears on the monitor to outline and present the next steps to be followed (Figure 2).

In this fashion, our student has every step of the complex dissection demonstrated to him. Between phases of the televised dissection, while students are working at their own dissections, the television monitor interrupts briefly to ask for their attention in

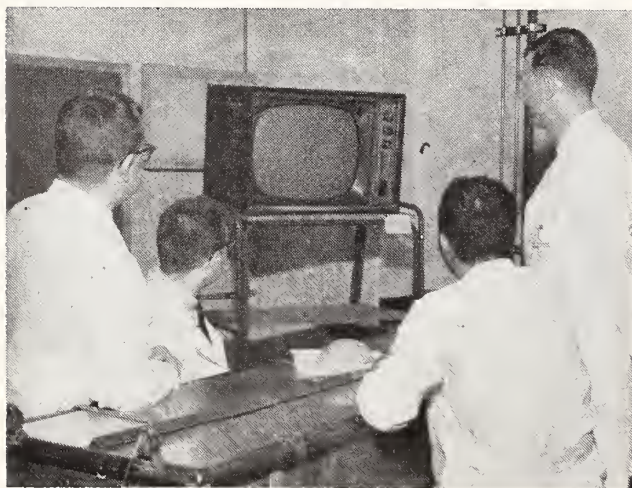


Figure 2. Students view the dissection.

order to present questions about the work. For this purpose, written questions appear at regular intervals to reinforce the main concepts to be learned as part of the demonstration. Students are encouraged to talk among themselves about these questions as they work and to discuss them with the laboratory instructors.

Our student, having completed one phase of the dissection before some of the other students have finished, goes out into the hall for a break. In the corridor he finds himself surrounded by and attracted to an exhibit (Figure 3) posted on the corridor walls.

The exhibit includes classical anatomical atlas plates pertaining to the current work, but with various features of the plates marked by questions rather than with labels. The questions are, of course, again designed to orient him toward and provoke his thinking about salient points. View boxes are also present displaying collections of x-rays, angiographic studies

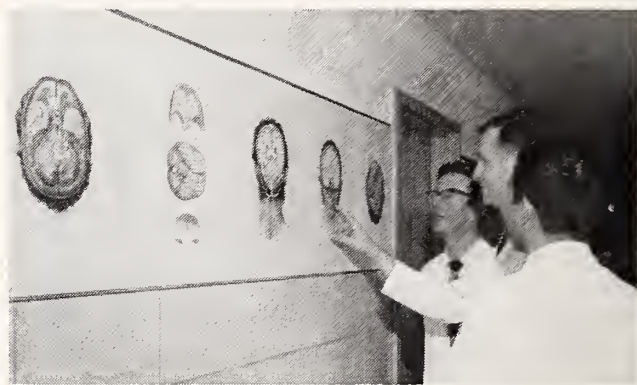


Figure 3. Students respond to questions on anatomical plates.

pertinent to the anatomy of the brain. This saturation with television demonstration, plates, x-rays, and questions serves the purposes of overlearning for better retention and of structuring the complex subject matter in terms of relative importance.

After having looked at, puzzled over, and discussed with other students a number of the questions posted on the anatomical plates, our student returns to his laboratory place for the next phase of the dissection. After the total dissection has been completed by all students, there is a brief demonstration by television of an angiographic procedure illustrating the arterial supply to the brain by injecting a radiopaque medium into a patient's artery and viewing its progress through the circulatory system with the aid of cineradiographic apparatus. The entire demonstration had originally taken place some weeks earlier in the Radiology Special Procedures Room and had been videotaped for presentation at this time. The radiologist who had done the procedure explains over the television circuit what was involved and can be seen.

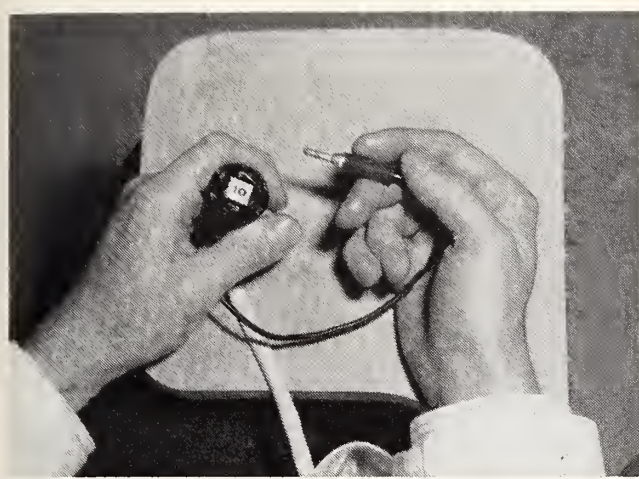


Figure 4. The students' end of the classroom analyzer.

The next order of business being lunch, our student goes to his locker room, picks up the bag lunch which he had brought with him from home, and proceeds, after buying a cup of coffee at a vending machine, into the lecture hall in order to view a motion picture while eating. This activity, although voluntary, seems to be very popular as the hall is almost filled with his classmates. Their interest has been attracted by the film which is to be presented demonstrating various gaits and their neuropathology.

Following lunch, our student is again seated in the same classroom-auditorium. He holds in his hand a small plug attached to a base which has five positions into which the plug can be inserted (*Figure 4*).

These positions are labeled A, B, C, D and E. As the other students enter and fill up the lecture hall, they too take in hand a similar plug-in device attached to their seats. The professor of anatomy enters the room and begins the afternoon's lecture, the subject of which is the pyramidal system. After going over the connections of this system to various tracts within the central nervous system, the professor asks that a slide be projected on the board and our student finds himself looking at a multiple choice question asking him which cortical layer gives rise to the pyramidal tract. Thinking that the answer is layer IV, our student plugs in position D on his response device. Other students plug in their answers to the question. The professor looks at a console (*Figure 5*) next to him and notes the pattern of lights which reflects each student's answer to his question. After consulting a dial at the side of the console, he announces that only 45 per cent of the class knew that the correct answer is layer V. Because so many students incorrectly chose layer IV, he goes back over part of his presentation in order to clarify the difficulty that the students may be having in understanding. Then he proceeds with his lecture until he is ready to ask the class another question which will tell him how well the students are following. On his next question

he finds that 91 per cent of the class knew that the pyramidal tract descended through the posterior limb of the internal capsule, so he goes on without pausing to review or elaborate that material. Further questions posed the class during the lecture involved the course of the tract through the brain stem and spinal cord, termination of the corticobulbar and corticospinal components, effect of lesions at various levels, etc. At the conclusion, our student noted that he had correctly answered 12 of the 17 questions asked in the course of the lecture, and that those questions which he missed primarily concerned the functions of various tracts and the consequences of their being cut. He resolves to himself that he will emphasize such matters as he studies and reviews this work.

At the conclusion of the formal lecture, a neurosurgeon enters the auditorium and demonstrates a hemiplegic patient to the class, asking various members of the class to perform parts of the neurological examination and to report on their findings. The patient's disorder is discussed from the point of view of both basic science knowledge and clinical perspectives. Following this demonstration of a live patient, the professor of anatomy rolls a large rear-projection television screen in front of the entire class and proceeds to show a previously videotaped demonstration of some four other patients with various lesions of the pyramidal system. After each patient is demonstrated, the videotape is stopped and slides are flashed on the screen questioning the students about pathways and lesions involved in the patient's disorder. The professor then explains the correct answers and possible sources of confusion and difficulty. As our stu-

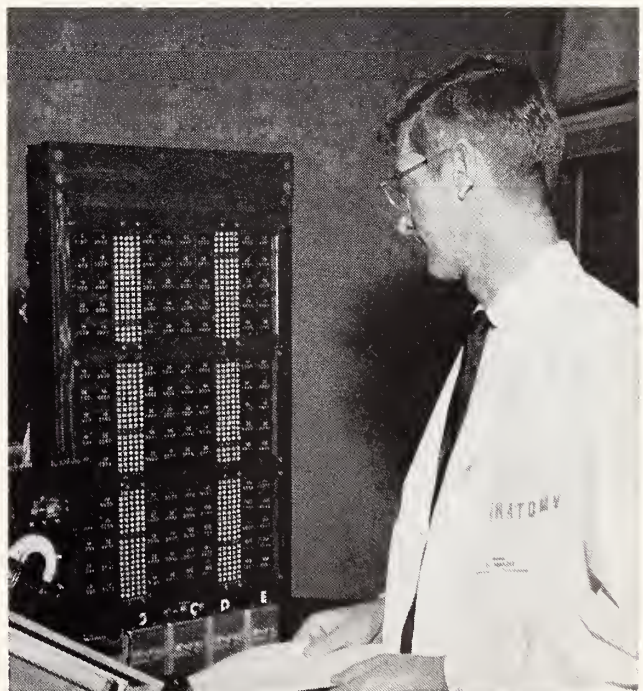


Figure 5. The console of the classroom analyzer.

dent walks out of the lecture hall, he knows that all of the filmed, videotaped, and exhibited dissection and clinical materials will be available to him for study and review as he is preparing for examinations.

After a short break, our student again returns to the same classroom to end the day's work with a review slide session. The professor of anatomy reviews all the material covered. He works from a set of slides similar to those which each student has been given at the beginning of the course, and goes over all of the tracts studied, their origination, termination, function, and the effects of lesions. He attempts to recapitulate the important points about the pyramidal system and to relate these to clinical material and clinical problems.

Recapitulation of Methodology

Taking leave now of our student of anatomy, let us consider the means by which we have attempted to aid him in his learning of anatomy. The techniques alluded to are applicable to areas of his anatomical studies other than neuroanatomy.

(1) *Televised prosection demonstration.* The demonstration-dissection is transmitted by coaxial cable from the prosection room camera to receivers in each of six laboratories where 15 to 20 students work on their own material at dissection tables. The prosection proceeds in stages, with each student visualizing and performing the dissection in stepwise fashion. Videotaped or live televised material from other hospital areas such as surgery or radiology bring related presentations into the anatomy laboratories.

(2) *Televised questions presented to students during their dissection work.* Using the television system, a series of orienting and thought-provoking questions are presented to the students at intervals during their dissection work, in order to direct their attention to the most significant aspects of the day's work. The students are encouraged to respond to these questions with group interaction, and to try out their answers on the laboratory instructors present in each dissection laboratory. Summary diagrams and plates are also presented during dissection work via the television monitor in order to help the students obtain the proper conceptual map of the terrain which their manipulations are exploring.

(3) *Correlated motion pictures, videotapes and live patient demonstrations.* Through these procedures students are provided with the opportunity to review territory covered and to extend their understanding to selected aspects of clinical work. In many instances, clinical case material is introduced in this fashion. As with other types of visual presentation, the instructional staff poses questions about the material viewed and attempts to structure its significance. Members of the clinical faculty present patients for study.

(4) *Lecture-demonstration by classroom analyzer.* Students respond to questions during lectures by plug-

ging in answers which are immediately tabulated by the lecturer. This keeps students actively participating in the lecture and enables the lecturer to modify his presentation in order to bring the entire class with him through the course of his lecture. The feedback from the students immediately tells him how well he is doing his job and putting across important points.

(5) *Correlated exhibits.* Students are exposed to further questioning and presentation of visual material in the corridors outside the dissection laboratories. The format of both the questions and exhibits orients the student to the salient aspects of the material.

(6) *Review.* Several types of review are available to students. Regular review sessions are scheduled after each block of material, with emphasis given to the understanding of function and significance. When appropriate, slide collections, motion pictures, and videotapes are employed in order to reinforce the student's original learning experiences.

Voluntary review sessions are offered in evening hours before term examinations. Attendance at these sessions has closely approximated 100 per cent of the students. Additionally, all motion pictures, exhibits, and videotaped material is made available to students at these times. These occasions are regarded by students and instructional staff alike as a prime opportunity to consolidate and synthesize understanding of the subject matter.

In fine, it should be noted that the presentation of the visual material of anatomy is accomplished through many media. The student receives constant orientation and guidance with regard to the conceptual matters of significance and relationships to clinical applications as well as to other basic science disciplines. The presentation of the visual material via various media depends very much on our engineering capabilities in the medical communication field. The provision of a useful and proper progression of anatomical knowledge in terms of general versus specific, simplified versus realistic, etc., depends on our knowledge of teaching-learning processes. It is our assumption that given a guiding integrative perspective, the study of anatomy by medical students can be most cogently advanced by the extension and extended application of such knowledge about teaching and learning processes. What we have described above are beginning attempts reflecting our innovative and investigative purposes. Our hopes for future progress and greater effectiveness lie, we feel, in these directions presently outlined. Anatomy now, as it was in the middle ages and the period of classical learning, is still primarily a visual science. It is still fraught with complexity, and it must still be related to other understanding.

Reference

1. Huizinga, J.: *The Waning of the Middle Ages*. Doubleday Anchor Books, New York, 1954.

Use of Drugs

Clinical Pharmacology Study Unit

**DANIEL L. AZARNOFF, M.D., ROBERT T. MANNING, M.D.,
and FLOYD LEADERS, Ph.D., Kansas City, Kansas***

THE ORIGIN OF DRUG THERAPY is lost in antiquity. Even by the end of the 19th century, little attention was paid to drug therapy though such potent remedies as quinine, opium, and digitalis were known. Most of the drugs available were natural products of plant origin and virtually useless. The first synthetic drugs, nitrous oxide and ether, were not used until the mid-nineteenth century and it was not until after World War II that immense numbers of synthetic compounds became available for use in humans. The practicing physician as well as the lay public has been made acutely aware of the possible dangers involved in the use of these compounds following the international publicity given to the teratogenic effects of thalidomide. In the United States this fact was re-emphasized shortly thereafter by the passage of the Kefauver-Harris Bill in Congress establishing governmental regulations for drug testing, efficacy, and advertising.

With the tens of thousands of complex molecules being synthesized for potential administration to humans, it is imperative that physicians be well trained in the use of drugs. Competent administration of drugs to humans is no longer possible based only upon a background of memorized dosage schedules and side effects; it is now evident that the same dose of a drug can either cure, have no effect, or kill a patient depending upon metabolic and other changes in that patient. To list only a few, these changes can be induced by concomitant administration of other drugs, endocrine factors, hereditary factors, and the ability of some drugs to stimulate their own degradation with continued administration.

Recognizing the importance of the proper use of drugs in humans and the need for research in this area, a clinical pharmacology study unit at the medical center was organized. This unit brings together all faculty members who share interests in research, research training, and other aspects of clinical pharmacology. The members of the unit carry out their individual program within their respective departments, but as a group:

- (1) Coordinate basic and clinical aspects of phar-

macologic training for medical students, graduate students, and house staff;

- (2) Consult with any faculty member desiring aid in evaluating drugs;

- (3) Offer elective courses for advanced work in clinical pharmacology;

Recognizing the importance of the proper use of drugs in humans and the need for research in this area, a clinical pharmacology study unit was organized at KUMC. It is hoped that by the work of this unit young people in training will become more discriminating in the use of drugs and more aware of those which may produce iatrogenic diseases if improperly prescribed.

- (4) Keep each other fully informed as to studies in progress on the mechanisms of action of various drugs, and perform cooperatively the necessary and appropriate clinical trials to evaluate them satisfactorily;

- (5) Attract young men for careers in clinical pharmacology and share talents and facilities for the best training of these men;

- (6) Recommend institutional policies and departmental programs relating to drug trials, investigations, and instruction in clinical pharmacology.

The study unit has already initiated several programs to attain these goals. The crux of all these aims is a close cooperation between the basic and clinical aspects of teaching in pharmacology and related areas. The greatest advances have so far been made toward attaining goals 1 and 5.

To attain goal 1, we have begun by establishing closer liaison between the departments of Pharmacology and Medicine in the following manner: (1) Some of the basic pharmacology lectures are given by those clinicians with advanced training in pharmacology; (2) The pharmacologists make patient rounds with the students and clinical faculty; (3) The pharmacologists participate in grand rounds and the postgraduate courses; (4) A seminar in clinical

* Dr. Azarnoff is Associate Professor of Medicine; Dr. Manning is Associate Professor of Medicine and Assistant Professor of Biochemistry, and Dr. Leaders is Assistant Professor of Pharmacology.

therapeutics has been established for senior students which is attended by both the basic and clinical pharmacologist; and (5) A weekly seminar in clinical pharmacology has been initiated.

To attain goal 5, a training program in clinical pharmacology has been initiated. The training consists of a five-year postdoctoral period. The first two years are the standard residency training in some area of medicine, usually but not always Internal Medicine. The last three years are spent primarily in basic science, either biochemistry, physiology, or pharmacology. Training in biochemistry and physiology should not be surprising since it should be remembered that the effects of drugs are on the normal physiologic functions of the body, that drugs influence biochemical changes in the organism, and are themselves metabolized by biochemical mechanisms. It is only by adding the understanding of these basic concepts to his previously acquired clinical acumen that the trainee will be able to adequately evaluate drugs in humans. Recognizing the importance and need for such a program, Dean C. Arden Miller gave official status to the study unit over a year ago. In July, the first Fellow began the basic science aspects of his training in clinical pharmacology. Through two training grants given to the medical center, facilities and stipends are now available for four more Fellows. The Burroughs Wellcome Fund has given a grant of \$100,000 over a period of five years. The second

from the General Medical Division of the National Institutes of Health is for \$283,000 and is also for five years.

In cooperation with the Food and Drug Administration and the American Medical Association, an adverse drug reporting program has been started at the medical center. The importance of this type of program was recently made evident by the reported possible relationship between small bowel ulceration and the administration of thiazide diuretics with potassium. Members of the clinical pharmacology unit rapidly surveyed the hospital's records and were able to report four additional cases to the Food and Drug Administration. It is only by such a reporting system that the practicing physician can be made aware of new or changing incidence of known adverse reactions to drugs.

It is hoped that by the work of this unit, young people in training will become interested in clinical pharmacology, more discriminating in the use of drugs, and aware of the plethora of very potent drugs which may produce iatrogenic diseases if improperly prescribed.

The clinical pharmacology study unit stands ready at all times to be of any help it can to physicians of the state. Direct inquiries to Daniel L. Azarnoff, M.D., Director, Clinical Pharmacology Study Unit, University of Kansas Medical Center, Kansas City, Kansas.

KANSAS BASIC SCIENCE BOARD EXAMINATION

The Kansas Board of Basic Science Examiners will give examinations in the subjects of anatomy, bacteriology, chemistry, pathology, and physiology on June 4-5, 1965, at the University of Kansas Medical Center, Kansas City, Kansas. Satisfactorily completed applications for examination should be submitted at least 30 days prior to date of examination. Application forms and other information can be obtained from Dr. Elbert W. Crandall, Secretary, Kansas Board of Basic Science Examiners, Pittsburg, Kansas 66764.

Teaching Affiliate

The Program in Medicine at the Veterans Administration Hospital

W. GRAHAM CALKINS, M.D.,* *Kansas City, Missouri*

SINCE 1952 WHEN THE Veterans Administration Hospital in Kansas City, Missouri, first opened its doors, there has been a close affiliation between its department of medicine and that of the University of Kansas School of Medicine. From the time of this original association more than five hundred medical students and one hundred residents in internal medicine from the University have spent time in assignments at the Veterans Administration Hospital.

This affiliation has worked to the mutual advantage of both institutions. The 240 medical beds of the Veterans Administration Hospital have provided additional teaching beds for the University. In addition, the medical students and residents of the University are exposed to a unique type of patient at the Veterans Administration Hospital. The great majority of our patients are medically indigent. Many of them are chronically ill with severe organic disease and are not eligible for care anywhere but at a Veterans Administration Hospital. It is a general policy of the Veterans Administration that a patient may not be discharged from the hospital with an incapacitating disease unless adequate social and economic post-hospital care is arranged. The students and residents exposed to these patients and their problems soon come to realize the full socio-economic significance of medical disease to a patient. Many of our patients are unable to obtain medical care at an early stage of their disease and reach us in an advanced stage of disease. By seeing such patients, the medical students and residents are constantly reminded of the importance of the early detection of disease. Most of the patients on the medical service of this hospital are hospitalized because of non-service-connected diseases. The diseases seen commonly in a general medical practice (pneumonia, congestive heart failure, diabetes, peptic ulcer, etc.) are seen in large numbers on our medical wards. In addition, there are always a few patients who have the rare and exotic diseases which are so stimulating to students and residents.

The medical service can be divided into two general sections as far as function is concerned. The

backbone of the service consists of the 106 general medical beds. These beds are located on the four general medical wards. Each ward is under the direct supervision of a full-time staff internist. Each ward is also staffed by one or two first year medical residents and often a third year medical resident who assists the staff internist in ward supervision. Third year medical students from the University of Kansas School of Medicine spend one half of their medicine clerkship (approximately six weeks) assigned to a general medical ward at our hospital. Teaching rounds are made daily with a staff physician. Formal rounds start in the x-ray department where the previous day's films are reviewed with the students and house staff. Then the bacteriology laboratory is visited for the purpose of actually examining bacterial cultures obtained from patients assigned to students. From there the group returns to the ward for formal rounds. When a third year medical resident is assigned to a general medical ward, he is made a part of the teaching program and conducts periodic teaching rounds with the students. During rounds the staff physician or senior resident serves merely as a guide in the conducting of rounds. Most of the discussion is carried on by the house staff and students.

Students are required to perform and record a history and physical examination on patients assigned to them. This is reviewed by the resident staff and appropriate comments or corrections made. In addition, the student is expected to follow his assigned patients daily and to record progress notes. The student also is required to do the admission electrocardiogram on his patients and to attempt to interpret the tracing he has taken. Thereby he obtains a familiarity with the electrocardiogram machines. By having the student attempt to interpret the electrocardiogram he is stimulated to learn about electrocardiograms and is led to confer frequently with the resident staff concerning them—such student contacts with the resident being of educational value to both. The student is also taught to do simple pulmonary function tests (such as a timed vital capacity) on his patients. Students are required to complete a critical summary on all patients assigned to them. The questions on this summary are of such a nature as to encourage the student to think deeply and broadly of the disease process

* Chief, Medical Service, Veterans Administration Hospital, Kansas City, Missouri, and Assistant Professor of Medicine, University of Kansas School of Medicine, Kansas City, Kansas.

affecting his patient. At the end of his clerkship on medicine, the student is given an oral examination based on the patients and their diseases about which he has written summaries. Approximately four or five students are assigned to a general medical ward at one time. An effort is made to encourage and facilitate contact between the students and the residents as this is of benefit to both groups. The staff physician confers frequently with the students individually concerning their progress during the medicine clerkship and is constantly ready to aid them in solving any problems they might have.

The medical service also consists of 128 subspecialty beds. These are divided as follows: 40 tuberculosis beds, 20 neurology beds, 20 cardiovascular beds, 12 nontuberculous chest beds, 12 gastrointestinal beds, and 8 beds each for the metabolism, hematology, and arthritis service. A staff physician with a special interest in the appropriate medical specialty is responsible for these beds. Second year medical residents are usually assigned to the subspecialty beds and work closely with the staff physician. Physicians from the University of Kansas Medical Center and from private practice attend these services as consultants at regular intervals and serve to supplement the full-time staff physicians. At the present time approximately one half the consultant visits to the medical service are by physicians in private practice in the Kansas City area. Some of the subspecialty beds (chest, gastroenterology, hematology, metabolism, arthritis) are located on general medical wards. In such cases, patients on the subspecialty services are assigned to the students on the general medical services. The resident assigned to a subspecialty service is given the privilege of transferring any patient on general medicine to his service. This enables him to select patients that are of special interest to him. It is true that this often removes an interesting patient from general medicine, but we feel that this is essential to run successful subspecialty services. The subspecialty resident is not permitted to have more patients on his service than he has beds allotted. The number of beds set up for each subspecialty was established with the purpose of limiting the size of the subspecialty services in order to avoid depleting the general medicine service of all interesting patients. For example, when the gastrointestinal service has its full quota of twelve patients, there are still a number of patients with interesting gastrointestinal problems on the general medical service.

Six beds are provided on a general medical ward where intensive nursing care is available. These beds are open to any patient on the medical service whether assigned to general medicine or subspecialty. Cardiac monitoring and resuscitation equipment is kept readily available in this unit. The resident staff

rapidly becomes proficient in the use of this equipment.

Outpatient services are limited at this hospital to the "CBOC" (Completion of Bed Occupancy Care) Clinic. This clinic was established to enable the veteran to be released from the hospital at an earlier date and still receive treatment by the hospital. Residents are encouraged to follow their interesting patients in the CBOC clinic for a limited period of time. When the resident leaves our service, he is expected to discharge his CBOC patients to their family physicians. Only about five per cent of patients hospitalized on the medical service are released to the CBOC clinic. The remainder are discharged to their family physicians if they require further medical care. The majority of patients assigned to the CBOC clinic are seen for only one or two follow-up visits before they are discharged from the clinic. Such an arrangement permits the resident to follow a few select patients as outpatients and does not burden him with large numbers of routine patients. Patients with service-connected diseases are followed as outpatients by the Veterans Administration Regional Office which is administratively separate from the hospital.

The medical staff is composed of four full-time and two part-time physicians. This small staff is supplemented by 25 consultants who are quite active in the teaching program at this hospital. There is a close relationship between the members of our medical staff and those at the University. The full-time University faculty participates freely in our conferences and teaching rounds. The members of our medical staff all hold faculty appointments at the University and attend conferences and clinics there. Members of both staffs participate in the oral examinations and evaluations of medical students. This mutual association has worked to the advantage of both institutions over the past twelve years.

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Home Care . . .

. . . and First Year Medical Students: “What Can They Do?”

MAUD ADAMS, R.N.,* *Kansas City, Kansas*

THE HOME CARE PROGRAM in Preventive Medicine and Community Health reported on in this JOURNAL in the March, 1964, issue has been in progress for over one year. It has proved to be a useful vehicle for inter-disciplinary teaching and learning for students of the health professions. This is done by involving them as team members in family centered care wherein they may participate in comprehensive medical care and observe coordinated services and continuity of responsibility for patients in their normal environments.

The staff of the home care unit is composed of 13 persons. There are four physicians. One has a general practice background; the other three have been trained in internal medicine and preventive medicine. Others are five nurses, a medical-social worker, dietitian, a physical and an occupational therapist. All the staff have had considerable experience in both the practice and teaching of their disciplines.

The program, organized as an extension of the Out-Patient Department, provides a continuum of care for approximately 50 to 60 patients, mostly from the medical center in-patient services and out-patient clinics. Patients considered for the program are chosen on the basis of certain criteria, the major one being the need for multi-disciplinary care. The patients considered for the medical student program last year were chronically ill but selected from all ages. This year each group includes a primipara in the last trimester of pregnancy. The intention is for a patient to deliver while the student is in the program so he may observe antepartum, delivery and postpartum care of the mother and newborn care of the baby.

The program is offered only to first year medical students. They are brought into the program in groups of five to encourage dynamic learning within the small informal group. Each student elects one patient from five previously screened by the Home Care staff. In each group there is a patient with a terminal illness, an antepartum primipara, and three others of varying ages, with physical and social problems. Patients are visited weekly by the medical students,

accompanied by a staff member and nursing students. More frequent visits may be made at the discretion of the group and on the student's free time.

In addition to informal discussions following the home visits, a weekly seminar is planned for each group of five students. During the first two sessions,

These comments constitute a progress report of the home care program with emphasis placed on the medical student. However, students from the many disciplines experience their various independent, dependent and inter-dependent roles while the concept of the “patient and his family as a whole” becomes immensely vitalized.

strong emphasis is placed on the psychological and socio-economic problems of the family. As many of the medical and paramedical personnel as possible are included in each discussion to give the student an over-all picture of how a complex medical problem is managed. Subsequent seminars are designed and presented relating material being presented in the basic sciences to specific patients. Guidelines for study are presented to the student in advance of each seminar. Students participate and contribute to each discussion.

Students are the best promoters of this experience and are undoubtedly responsible for the many requests for assignment to the demonstration unit. When the program was offered to first year medical students as an elective in September, 1963, 70 in a class of 114 indicated an interest in the program. In September, 1964, 100 out of the 114 indicated interest. Last year 45 were selected; 50 will have experience in the unit this year. Some of the original students are still sharing with concern for their families.

When the program is explained for the first time to physicians and visiting guests, one question is obvious: “What can beginning first year medical students do or learn in the home with such patients and families?” Many of the patients are quite ill with

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multiple chronic diseases complicated by complex psycho-socioeconomic situations. The question is a good one. If medical care is thought of only in terms of "action"; namely tests, examining, writing orders and so forth, perhaps the only answer would be "little." However, if some of the more subtle elements of patient care are considered, the question can be answered more positively. Under proper supervision, students may acquire certain skills, attitudes and understanding. He may also perform a specific role as observer, recorder, and teacher.

Reinforced Learning of the Basic Science

It has been demonstrated that students from the home care program had a greater fund of information on recall and more ability to apply information learned in biochemistry and physiology to the clinical setting than those first year students who have not had the home care experience.¹ With administrative permission, an unannounced, multiple choice examination prepared by members of the Departments of Medicine, Physiology, Biochemistry, was given to all members of the first year class. Thirty-seven of 40 home care students took the examination; 52 of 68 other students participated. Students who had been in the home care program scored significantly higher on the examination than did the "control" group. This was particularly evident in the sections on "applied biochemistry" and "applied physiology." Scores of students with home care experience were higher in every category than those in the rest of the class.

Skills

The medical student begins the practice of basic techniques such as those used in observing vital signs, including temperature, pulse, respiration, weight, and blood pressure. He may be asked to note the extent of edema and on occasions, collect specimens for the laboratory, such as blood, urine or sputum. Students begin to practice auscultation. In all cases, findings are discussed with the physicians for significance and interpretation. Highly motivated students grow in the art and skill of observing, listening, reinforcing teaching and interviewing. Communication skill begins with patients and families, between students of all kinds, and with the staff as consultants.

Attitudes and Understanding

The first year medical student has a great motivation to care for people. He is introduced to families as a "doctor-in-training." Families in general are pleased to see "the doctor" and are actually flattered to have him visit their home. Others take pride in having an opportunity to help "teach" him. Strong inter-personal relationships are developed.

Perhaps most importantly, the first year medical student sees patients as individuals, not as pathological

entities or aggregates of symptoms, but as complex members of a dynamic society, subject to cultural and environmental influences which greatly affect the practice of medicine. The student is afforded an early opportunity to see and understand the impacts of illness on the patient, his family and in some instances, the community. Students do not remain detached from the problems of their patients, but seek help from the medical social worker, the dietitian, occupational and physical therapists and community resources for the promotion of the patients' health and welfare. Students are introduced to an array of official and voluntary institutions which exist in the community to aid in the care of families.

A study by Davis in a recent paper suggests concepts of the role and functions of the nurse change only during the first year in the School of Nursing with little evidence of further alterations of attitudes followed the "set" at the end of the first year. There is little information to suggest this may be true among students of other professions. A study has been begun at the University of Kansas School of Medicine this academic year to measure more formally attitudinal change which occurs in the process of professionalization of the medical student as a result of the home care experience.

References

1. Sisk, Charles, M.D., Adams, Maud, Parry, Hazel and Thurston, Hester I.: Students and Home Care. *The Journal of the Kansas Medical Society*. Vol. LXV, No. 3, p. 114, March, 1964.
2. Lewis, Charles E., M.D.: Home Care Revisited, An Experiment in Medical and Nursing Education. Unpublished paper.

A leaflet describing the purpose and activities of the comprehensive mental retardation planning project in Kansas is available, free of charge, for distribution to civic and professional groups from Community Mental Health Services of the Division of Institutional Management, coordinator of the project.

Entitled "Comprehensive Mental Retardation Planning in Kansas," the leaflet tells why the plan is needed, how the project was made possible, and stresses Kansas citizens' responsibility to help plan for the development of needed services for the mentally retarded and their families.

Any group wishing a supply of the leaflets is urged to write Susan Ellermeier, Informational Counsel, Community Mental Health Services, Division of Institutional Management, State Office Building, Topeka, Kansas. Please state the number needed and the purpose for which you plan to use the leaflets.

Serendipity

Discoveries of a "Garden Variety" Anatomist's Concern With Blood Vascular Problems

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Serendipity is a very expressive word emerging from the unique intelligence of Horace Walpole who stated in a letter to his good friend, Sir Horace Mann, on January 28, 1754, that he coined it upon reading a fairy tale, "The Three Princes of Serendip." The heroes of this tale "were always making discoveries, by accident and sagacity, of things they were not in quest of."*

This short account of my discoveries concerning blood vascular problems began when I was a graduate student, Department of Anatomy, University of Chicago, 1934. As a thesis topic I was assigned the problem of working out the complete vascularity of the brain of the tiger salamander, *Amblystoma tigrinum*. What follows is in no way an expression of my sagacity. In fact, it will be quite evident that the few small discoveries which I have made were by accident, hence, my affection for the term, *serendipity*.

I would have made another choice for study but young graduate students, then, as now, usually follow the suggestions of their professors. I followed carefully the classical techniques of injection, staining etc., but to no avail. Three years of desperation in seeking a method that would give me a clear and undisputed view of the entire vascular bed seemed lost as I worked on this tiny brain. Then one of these "accidental" happenings when I found a fellow graduate student† peering into a dissecting microscope as he observed the blood flowing in the intestine of a frog. The specimen was being illuminated by a quartz rod from a 500 watt incandescent light bulb. Since this method carried no heat to the tissue, I saw immediately my opportunity to illuminate the entire brain of the salamander without disturbing the physiological processes. The illumination was cold light. I was seeking merely the vascular tree with all of its ramifications within the brain. This accomplishment was indeed satisfying.

Later discoveries were even more gratifying. I found that there were two portal systems within the cranial vault. This I showed to my major professor, Dr. C. Judson Herrick, who recognized the information to be of some consequence. He immediately

turned to his own collection of embryonic slides of this same species and published the account a short time before my thesis appeared. The portal systems referred to are the capillary nets around the paraphysis and the saccus endolymphaticus. The function science will assign to these peculiar portal systems is still an open question.

A few months later I accepted a teaching position at the University of Louisville where I remained through World War II. Teaching assignments were large and civilian demands numerous during this period. My research suffered.

World War II forced many questions before the medical scientist. At its close I was happily situated at the University of Kansas. The first federal grants to my department were through the Office of Naval Research and the Army Medical Corps. Many of the research problems were in the field of hematological studies. Students were inquiring and alert. I received two contracts to work on the effects of low protein diet, and radiation on blood constituents such as the formed elements, hematocrit and hemoglobin. In our studies of the effects of radiation upon the blood cells I was surprised to find a great inverse correlation between the number of bone marrow megacaryocytes and the number of platelets in the blood stream. The late Marion Russell,‡ M.D., University of Kansas Medical Center, as a student, completed his M.A. on this problem. We found that as the megacaryocytes decreased in number in the bone marrow, the platelets zoomed in the blood stream. This was to us almost a clincher that the platelets were derivatives of the megacaryocytes. Marion Russell was awarded the American Cancer Society (Kansas Division) award of \$500 for this work.

In this research I had started out to ascertain the relative sensitivity of the immature forms of the blood cells of the bone marrow but also discovered the direct relationship of megacaryocytes to blood platelets. The theory held at that time was that the megacaryocyte was the precursor of the platelet. The process of formation was by cytoplasmic splintering. Our simple discovery showed that to be true for as we bombarded the megacaryocyte with alpha particles

* Horace Walpole's Correspondence, Edited by W. S. Lewis, Vol. 20, Yale University Press, 1960.

† Melvin H. Knisely, Ph.D., Chairman, Department of Anatomy, School of Medicine, Charleston, South Carolina.

‡ Marion Russell, M.A., Department of Anatomy, 1952; M.D., University of Kansas, 1955.

from radium chloride injected interperitoneally, the megacaryocytes were shattered almost ten times as fast as their normal disintegration.

A few years ago (1958) I had the opportunity to return to the problem of vascularity in the brain. The experiment I planned was simple. I removed the calvarium from the cranial vault of the tiger salamander to see if I could measure the flow of the blood in single capillaries. I photographed the flow of blood with a movie camera mounted on a regular microscope. I could "spot" a red cell in one place in one capillary. The next frame of the camera would show it to have advanced a certain distance. It was then simple arithmetic to calculate the volume of blood per second that flowed in a single capillary. Then calculating the density of capillaries in a given field, it was again a simple mathematical problem to learn how much blood was delivered to an exact amount of brain tissue. This experiment was in a living and undisturbed brain. It was thought out and planned, therefore, I cannot claim it to be due to *serendipity*.

With the naked eye I could see that there was a difference in the number of red cells circulating in the capillaries. This excited my curiosity so I began to check my specimens. These specimens were obtained from three separate ponds located high in the plateau region of the Teton National Park. The altitude of the ponds, checked by the Geological Survey bench marks, revealed that there was little difference. Checking further into the food supply, chemistry of the ponds, etc., led me to conclude that I was dealing with strain differences in the same species of the salamander, *Amblystoma tigrinum melanostictum*. So I found by *serendipity* that the blood streams of this

one species had notable differences. These can only be accounted for, at this time, by genetic make-up.

One other "serendipic" discovery should be mentioned in this short account. Two years ago Gerold Garrett,[§] at the present time a junior at the University of Kansas Medical Center, and I undertook to determine the capillary pattern in the normal joints of rats and to compare this pattern with that found in the joints of rats held at extremely low O₂ tension. Our techniques were the classical one devised to pinpoint these small vessels. Due to special handling of bone and its membrane, we could not come up with a reasonably satisfactory picture. While sectioning various tissue to compare with the joints, we looked at the kidney as we thought we detected differences in the number of glomeruli in the normal as compared to our study of the high altitude animal. We said to ourselves that this might be true for the fetal rat. Trusting to *serendipity* we put pregnant mothers in the high altitude chambers during the period of gestation. Our findings indicated an increase in the number per unit of tissue of glomeruli in the high altitude animals as compared to the normal.

Serendipity is a normal part of a scientist's life. Many discoveries are made in this manner. As Walpole commented about the three princes who discovered much by sagacity as well as by accident, so the scientist as he goes about his business-like tasks hopes that when the unexpected appears he will have the wisdom to recognize it. I suggest that you each read the delightful fairy tale, "Voyage des trois princes de Serendip."

[§] Gerold Garrett, M.A., Department of Anatomy, University of Kansas, 1962.

NEW TRANSFUSION TECHNIQUE

Plasmapheresis, a blood transfusion technique in which the cells are separated and returned to the donor's veins in a matter of minutes, is "an increasing source of plasma because of its simplicity and the growing need for the product."

So report two Boston physicians, Dr. Allan Kliman of the Blood Grouping Laboratory and Dr. Mark Lesses of the Blood Bank and Transfusion Unit there, in *Transfusion*, publication of the American Association of Blood Banks.

While donors can donate whole blood only five or six times a year, they can give plasma via the new technique as often as once a week. The development is especially valuable for hemophiliacs who need a blood factor found in plasma.

"The effects of bleeding and return of the red blood cells were well documented in the past half century," wrote the authors, "but the procedure did not become practical until the development of plastic equipment which allowed bleeding of the donor, separation of the plasma, and autotransfusion of the red blood cells through a single venipuncture. . . . For many blood banks the introduction of routine plasmapheresis may be one of the most important advances in blood banking in recent years."

Nursing Education Trends

Preparation for Nursing Practice in the 1970's

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IN KANSAS as well as throughout the country the winds of change, progress, growth and responsibility are creating and stimulating innovations in the education of the professional practitioner of nursing. Within the past ten years the number of students entering collegiate nursing programs in the United States has increased substantially while admissions to diploma programs has leveled off. The projected need for graduates prepared at the baccalaureate level is great. According to the Surgeon General's consultant group, by 1970 approximately 25 per cent of the professional nurses should have at least a baccalaureate degree and an additional 10 per cent should have graduate preparation. With the passing of the Nurses Training Act of 1964 there is an increased amount of federal money available for building and baccalaureate program development. The state of Kansas can now boast two baccalaureate programs in nursing. The inauguration of a new program for collegiate education in nursing at Marymount College in Salina was a source of great pride for the nurses of Kansas. It is hoped that additional college programs in Kansas soundly conceived, and in educational settings where they thrive, will soon be initiated.

Changes in Curriculum

At the time of our last writing in March, 1964, the Department of Nursing Education at the University of Kansas had embarked on a major curriculum revision. Members of the faculty believe that the changes that have taken place to date and those changes that are yet to come will more effectively prepare professional practitioners of nursing to meet the challenges of the 1960's and 70's. The nursing faculty is encouraged that the 30 million more Americans that will be present by 1970 will come somewhat closer to having their increased demands for high quality nursing services met. One of the most exciting changes to come about in the Department of Nursing Education at the University of Kansas is the restructuring of the curriculum so that the program can now be completed by students in four academic years and one summer session. The professional portion of the program now occupies two academic years rather than two calendar years. The

shortening of the program was accomplished by regrouping essential content in a manner that would eliminate needless duplication and overlap. The faculty is confident that the essential learning content has been preserved and also strengthened by this change. In addition, an increase in number of prepared faculty has provided more opportunities for the students' learning experiences to be selected and planned so that their individual needs can be met.

Changes in the curriculum for nursing at KUMC and new entrance requirements have made significant changes for the students of nursing, and the future will bring still more.

The number of clinical practice hours in most courses has been reduced. The concept of fewer hours with the learning experiences carefully selected so that the time is spent in the most effective concentrated learning is viewed as a significant aspect in the learning process. This is opposed to the traditional concept of multiple hours of practice, with somewhat haphazard supervision as the only sure way students could learn the practice of nursing. Clinical practice or laboratory study in nursing represents regularly scheduled courses comparable to other laboratory courses in the college or university. Through the laboratory, students have opportunity to test theoretical content presented in the classroom and to develop intellectual skill in determining and implementing a course of action. Libraries and laboratories provide resources for the pursuit of learning outside of scheduled classes. The nursing student is expected to prepare for clinical practice in the same manner that she prepares for class. Patient assignments are made by the instructor well in advance and the student is responsible for ascertaining the nursing needs of the patients for whom she is to care. Gathering this information may involve reading about a disease condition with which she is not familiar, reviewing medications, consulting with other health team members as well as consulting with the patient prior to the time she is assigned his direct care. The instructor is available to assist the student

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during this preparatory period. The instructor is also present in the clinical practice situation to guide, question, stimulate, and challenge the learner. Present evidence indicates that these methods employed in clinical practice are highly favored by both students and faculty. Conferences and seminars provide the students with opportunity for synthesis of theoretical and laboratory learnings and for the critical examination and evaluation of their own progress.

At present the one remaining summer session continues as an integrated course of anatomy, physiology and biochemistry. This course is taught during the summer following the student's sophomore year prior to her enrollment in professional courses. It is anticipated that eventually students may be able to enroll in these courses concurrently with professional courses. They will then be considered part of the professional major.

Changes in Entrance Requirements

The Department of Nursing Education has announced the revision of the prerequisites for nursing effective January, 1965. Students in the first two years must still meet the common underclass requirements of the college in which they are enrolled but the greater number of so-called prerequisites to nursing have been eliminated. This change allows students greater freedom in choosing what courses will make up the total minimum of 60 hours of credits required for transfer into the Department of Nursing Education. Instead of prescribing courses by name, students will be required a certain number of hours in three major divisions. The nursing prerequisites are as follows:

HUMANITIES:

Required Courses:

English Composition and Literature—2 courses

Suggested Courses:

Foreign Language
Logic
Philosophy
Literature
Creative Writing
History
Speech

NATURAL SCIENCE AND MATHEMATICS:

Required Courses:

Chemistry
Microbiology or Bacteriology
Biology or Zoology including laboratory (or exemption)
Human Biology or Anatomy, Physiology and Biochemistry

Suggested Courses:

Nutrition
Physics
Mathematics

Organic Chemistry
Biochemistry
Statistics

SOCIAL SCIENCES:

Required Courses:

Sociology or Anthropology
Psychology

Suggested Courses:

Child Development
Child Psychology
Political Science
Economics
Social Psychology
Abnormal Psychology
Psychology of Adolescence

It is anticipated that the liberalizing of the nursing prerequisites will enhance the student's understanding and grasp of the professional content. The nursing content will continue to be taught at a senior college level and the same or greater expectations will be made of these students than of those who have been admitted in the past with a rigidly outlined list of prerequisites. The caliber of students presently being admitted to the Department of Nursing Education indicates that they will in no way be penalized because they have not had course *x* or course *y*. In this era of rapid social and cultural change professional practitioners of nursing are needed with a wide diversity of knowledge, creativity, sensitivity and imagination. The department has no wish to graduate large numbers of students who think alike, act alike, have identical interests and who have attitudes that are all exactly the same. The individual differences and interests of students must be preserved, maintained and encouraged.

The departure from the practice of providing separate classes for the general nursing students represents an additional means of enriching and broadening the learning of all students. The senior students in the general nursing program are enrolled in the senior professional courses along with the students in the basic program. The general nursing students bring to classroom discussion and laboratory practice a broad diversity of experience and background. The basic students add their enthusiasm and recency of acquired knowledge to discussions to make learning lively and meaningful. The general nursing student enrolls in two required professional courses, Public Health and Nursing Leadership. She will take additional professional courses as the areas of achievement on the National League for Nursing Achievement Tests indicate that she might profit from additional exposure to certain clinical course materials.

Foreign Exchanges

There are future plans, though still in the formulative stage, for increasing and enriching the breadth

of student learning which would be worthy of note at this time. The University of Kansas has established a relationship with the University of Costa Rica in San José. For the past five years small groups of students from the Lawrence campus have been sent to Costa Rica and they take the regular courses at the university in whatever areas they are interested. International exchange programs on the undergraduate level are not a new concept. But, the plans that are in preparation to include nursing students from the University of Kansas in this cultural exchange signify a distinctly new idea. Kansas University has long felt that the problems of one nation are the problems of all nations and to accept the responsibility for the welfare of others is not only a moral obligation but a practical matter of necessity dictated by self interests.

Higher Education must share this responsibility. The problems created by the new world situation cannot be solved by political actions alone, nor by economic or religious institutions. Education must supply the means that will develop an informed citizenry capable of recognizing its responsibilities and able to cope with them. Education at all levels must prepare the citizen of tomorrow to think effectively about the challenging world in which he will live.²

Extracurricular Opportunities

With the summer between the junior and senior years now free of scheduled learning activities the students may choose to spend their time either vacationing, employed or increasing the breadth of their knowledge. The nursing students are eligible to participate in the COSTEP program (Commissioned Officers Student Training and Extern Program) of the United States Public Health Service. In this program the selected applicants will be placed at various U. S. Public Health Service installations throughout this country during the summer. Appropriate and carefully selected learning experiences are planned for students in this program. The students receive transportation and expenses plus a stipend allowance.

Many students are remaining at the medical center for the free summer for additional experience in their areas of choice.

Another opportunity for the student during the free summer term is being investigated at the Loeb Center for Nursing and Rehabilitation in New York City. The Loeb Center is the culmination of the vision and planning of Mrs. Lydia Hall, one of the foremost nursing innovators of our day. It is associated with Montefiore Hospital in the Bronx and represents a very new and exciting dimension in nursing. This is not the traditional custodial type of nursing home. The patients at the Loeb Center are convalescing from acute illnesses and it is expected

that all of them will return to some active form of useful life. These patients are carefully selected and admitted solely on the basis of their nursing needs and only on the express consent of the nursing administrator of the Loeb Center, Mrs. Hall. All direct care given to patients at the Loeb Center is given by the professional nurse.

The principal therapist, a nurse in the care of the Center, is the unifying element as well as the person who assesses patient needs, designs the major portion of therapy (nursing care), she is the person who ministers to him, giving him nursing care—that therapy. For the kind of patient for whom the Center is designed—partway between acute illness and recovery—medical care is essential but nursing is central. His major needs are for support, nurturing, understanding his own progress and his part in it. These are roles in nursing.⁴

Future Possibilities

Plans are also afoot to initiate a program of a double major for the baccalaureate student of nursing. The student in this program will select in addition to her nursing major another major in any field of her choice, be it one of the hard or soft sciences, education, mathematics, foreign language or whatever the student might choose. The student graduating from a baccalaureate program in nursing with another major area of interest will have laid the ground work for graduate study in nursing or in her other area of interest. It will bring to her practice of nursing new concepts and insights that will make her a practitioner of nursing with truly unique ability and understanding in the realm of patient care. It is not anticipated that the addition of a second major will dilute the student's interest and enthusiasm for nursing. Whatever area the nursing student may choose as her alternative major it is anticipated that it will fortify and strengthen her interest in nursing.

It is hoped that the availability of doctoral study for graduates of baccalaureate programs in nursing will not be in the too dim and distant future for the University of Kansas. It is no longer feasible to think that the quality of baccalaureate education in nursing can thrive on anything less than the best prepared faculty capable of bold thinking and educational daring and this means doctoral preparation. Anything less would be quite inadequate. For a time the nurses prepared at the doctoral level will be educated as teachers and clinical specialists. Such a program should also enable the student to acquire depth for her nursing specialty as well as the ability to conduct research and to utilize the findings of research done by others. The employment of nurses with doctoral preparation in our nursing care systems will have two main influences. The first is improved patient services resulting from greater depth in knowledge in a given field, and this will be wel-

comed by all. The second influence however, will be relatively new. It will be the trend away from a nurse as a "jack of all trades" and therefore knowledgeable in all fields to the nurse as an expert in one field and only generally knowledgeable about the others. These better educated nurses will question the adherence to traditional routines long accepted as safe nursing in hospital services. They will question care practices which do not stand the light of the critical analysis by trained minds. Educated nurses will continue to accept the judgement of medicine in medical care and treatment but there will be less subservient obedience when it comes to expressing their views on how nursing should be practiced and what is appropriate to the nursing function. They will wish to be as influential as any other health discipline in ascertaining and interpreting goals of patient care.

There will be more changes and advances as collegiate education for nursing in Kansas develops and expands. With increased facilities and number of prepared faculty the department will be able to select a larger number of the high caliber applicants for admission. Thus, moving somewhat closer to the goal of "200 graduates a year from baccalaureate nursing programs"⁷ for the state of Kansas seems somewhat clearer in prospect.

The ideals that have motivated nurses for more than a century are no less great today than they have ever been. . . . Modern nursing's search for quality is as old as modern nursing. . . . The goal of better health for mankind beckons. Transition moves apace. Man's capacity for directing change is also the capacity of nurses for envisioning the future and determining sound direction in the great task of building a healthy society.⁶

References

1. Coulter, Pearl Parvin: *The Winds of Change: A Progress Report of Regional Cooperation in Collegiate Nursing Education in the West 1956-1961*, Western Interstate Commission for Higher Education, Boulder, Colorado, July 1963, 72 p.
2. Heller, F. H., and others: *The University of World Affairs*, Lawrence, Kansas, The University of Kansas Press, September, 1960.
3. Kasselman, Mary Jo: Collegiate Education for Nursing in Kansas: Perspectives and Problems. *Journal of the Kansas Medical Society*, March 1964, 64:134-137.
4. Leone, Lucille Petry: "A New Dedication to Creative Nursing." Address at the Dedication of Loeb Center for Nursing and Rehabilitation, Montefiore Hospital, New York, N. Y., November 29, 1962.
5. Mullane, Mary Kelly: Care Systems Influence and Are Influenced by Nursing Educational Systems. National League for Nursing. *Health Issues of the Day*, 1963, p. 40-45.
6. Rogers, Martha E.: *Reveille in Nursing*. Philadelphia, F. A. Davis Company, 1964. 97 p.
7. Smith, Carmelita and others: Kansas State Nurses Association. Survey Report of the Nursing Needs and Resources in Kansas 1958. 337 p.
8. U. S. Department of Health, Education and Welfare. Public Health Service. *Towards Quality in Nursing: Needs and Goals*. Washington, D. C., U. S. Government Printing Office, 1963. 73 p.

THE IDEAL DOCTOR-EMPLOYER

The physician who wonders how he rates with his employees now has a yardstick with which to measure his standing.

Fifty medical assisting students in three schools around the nation have drawn a picture of what they consider to be the ideal MD-boss.

He is a kindly, pleasant, dedicated man who runs his practice efficiently and who treats his employees with consideration, taking time to explain duties, to criticize constructively, and to show occasional appreciation for a girl's devotion to her work.

The American Association of Medical Assistants interviewed women selected at random in medical assisting courses at Southwestern Preparatory School, Phoenix, Arizona, Foothill College, Los Altos Hills, California, and the Madison (Wisconsin) Vocational and Adult School and asked them to list the qualities they felt were most important in a physician-employer.

Mentioned most often was "a nice personality." Second on the list was consideration—for employees as well as patients. Third was efficiency, the ability to organize the office and run it smoothly. Proficiency in medicine was fourth on the list, although it is quite likely students assumed that all physicians would meet this requirement.

Mutual respect for each other and an appreciation on the part of the physician for the special skills and training of the modern medical assistant were cited next in importance. Other desirable qualities sought in doctor-bosses included kindness, patience, understanding, tolerance, honesty, fairness, tact, a sense of responsibility, neatness, promptness, high morals and ethics, and a belief in God.

Medical Assistants said they wanted an employer who was understanding, able to give directions, but who would not "watch them like a hawk." Others said he should be patient, particularly when a girl is new on the job, and willing to explain things to her. Many said he should be able to communicate his views and instructions clearly to his employees and several stressed the importance of keeping his office posted on his whereabouts. Here are some selected students' comments:

"The ideal physician-employer . . . would explain distinctly to his assistant what he wants her to do and what he doesn't want her to do."

"He . . . should be able to hand out criticism without hurting feelings and help straighten out matters when there is difficulty."

"He should allow his medical assistant to work at her own capacity and speed. He would have respect for her as a person as well as for her profession. He would have faith in her abilities and judgment."

Others say they want an employer who will not hesitate to criticize when necessary, but one who will not yell. The one quality all say they would dislike most in an employer is grouchiness.

A report on the survey appears in the January/February issue of the *AAMA Bulletin*, publication of the American Association of Medical Assistants. The accompanying article encourages future medical assistants to analyze themselves to determine the type of physician for whom they could work best.

"In the medical office the ability to work together harmoniously is essential. The physician and his staff must work closely, often dealing with people who are not at their best. If there is friction or tension because of personal incompatibilities, the entire office operation suffers."

Medical Care

Factors Determining Attitudes Towards Medical Care— Study of a Metropolitan Area

JAMES HECKER, M.D., and

CHARLES E. LEWIS, M.D., *Kansas City, Kansas**

A STUDY OF ATTITUDES towards health care of people living in a metropolitan area was made in order to determine whether a correlation existed between the attitudes of groups and socioeconomic variables. Particular attention was devoted to the age and yearly income of the individuals involved. If such a relationship exists it should be possible to predict the outcome of similar surveys of particular groups in any specific area depending upon their composition with respect to these variables. Besides determining the income and the age of the people interviewed, other data were obtained. These included the individual's occupation, type of dwelling and its ownership, race, sex and marital status. Obviously, many of these are compounded or interrelated variables.

Questions pertaining to health care included inquiries as to the availability of medical service, satisfaction with present arrangements, and financial aspects of medical care. Their attitudes regarding the role that government should take in the area of medical care and their feelings towards physicians were also explored.

Method

The area chosen for study was Kansas City, Missouri. Only the area south of the Missouri river with a population of about 400,000 was considered. The city had previously been divided into census tracts by the use of information obtained in the 1960 National census. Each of these census tract areas was delineated according to the average income, age and race of the population therein. A random stratified subsample of these tracts was selected. The stratification was done to insure desired distribution of the sample according to age and income groups to be considered. Information was obtained by means of door to door interviews conducted over a three-month interval during the summer of 1962. Each day a new neighborhood was selected at random from a particular census tract. One street was chosen at random from within an area of about 50-100 individual blocks as a guide street for the day. The first block

to be entered for interviewing on a given day was at one end of the defined neighborhood containing the guide street. After circling the first block, subsequent blocks were chosen by returning to the guide street and skipping the next block so that odd numbered blocks from the initial one were selected. An

Nine hundred and thirty-seven households were interviewed in order to determine attitudes toward medical care in relationship with certain variables, such as race, income and age. The results of the survey, made in a metropolitan area, are presented here.

attempt was made to survey every fourth house in a given block. Because it was more difficult to follow this pattern in apartments one person from each floor was sought in the larger buildings and one from the entire building from four to six unit apartments. In the event that no one responded, or the adults of the home were away, an interview was attempted at the house at the right of the original contact. Most of the contacts were made between 9:00 a.m. and 5:00 p.m. One hundred and twelve follow-up interviews were made on weekends at houses where there were two or more adjacent houses where either no one answered the door, or adults were not available.

After two revisions, a questionnaire was developed for use in this study. This was administered by one person. The questions were memorized in order to insure a uniform approach. When the respondent did not understand a particular question a standardized explanation was given as to the intended meaning.

Results

Interviews were attempted in 1,903 households. Contact was made in 1,235 households; at 825 of them an interview was obtained at the first visit. One hundred and twenty-four or 10 per cent of

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the contacts refused to answer any questions. One hundred and thirty-four, or approximately 10 per cent of the contacts said they were busy. At 111 households a child or someone other than the responsible person in the household answered the door and stated that no one was present who would be able to provide an interview. At 41 households no interviews were obtained because of "religious conviction."

At 668 households no one came to the door. Three hundred and fifty-two attempts at follow-up were made at households where no one answered the door on the first visit. One hundred and twelve additional interviews were obtained during these attempts. A summary of this information is found in Table 1.

TABLE 1
DISTRIBUTION OF ATTEMPTS TO
OBTAIN INTERVIEWS

	<i>First Visit</i>	<i>Follow- up</i>	<i>Total</i>
Completed interviews ..	825	112	937
Answered but refused ..	124	12	136
Answered but "busy" ...	134	19	153
Answered but adults away	111	17	128
Answered but passed ...	41	1	42
No answer on attempt ..	668	191	859
Total	1,903	352	2,255

There were 236 men and 701 women interviewed. Seven hundred and forty-five of the people were white and 157 were Negro. Thirty-four were Mexican-American and one was American-Indian. This racial distribution corresponds with the actual racial composition of the area under study. The marital status of those interviewed was as follows: 739 married, 45 single, 119 widowed, and 34 divorced or separated.

Questions

Have you had any difficulty in the past in obtaining medical services of any type?

Thirty-four persons or 3.6 per cent of the respondents replied in the affirmative (Table 2). The accompanying figure shows the relationship between the income class of the patient and the respondents who stated that they had experienced difficulty in obtaining medical services.

When there is a sudden sickness in the household could you get a physician to come to your house, or

TABLE 2
INCOME VS. DIFFICULTY IN
OBTAINING MEDICAL SERVICES

<i>Yearly Income</i>	<i>Had Difficulty</i>	<i>Total Interviewed</i>
Under \$3,000	18	258
\$3,000 to \$5,000	10	268
\$5,000 to \$8,000	4	279
Over \$8,000	2	132
Total	34	937

would you go to a hospital emergency room for treatment?

Five hundred and fifty-six people felt that they knew a physician who would make a house call at night, if it was necessary (Table 3). There was an increased dependency upon hospital emergency rooms among lower income and younger age groups.

Upon which of the following do you depend most of the time for your health care needs—a family type physician, specialists for particular problems, or medical clinics for diagnosis and treatment?

General practitioners, surgeons, or internists who also treated "general ailments" and gave routine examinations and care were interpreted to be "family type physicians." No distinction was made between physicians and osteopathic physicians. If children in the family were seen by pediatricians the household was considered to be in the "specialist" category regardless of the type of physician consulted by parents.

TABLE 3
AGE AND INCOME VS. NIGHT
EMERGENCY ARRANGEMENT

	<i>Doctor to Home</i>	<i>Emergency Room</i>	<i>Per Cent Doctor to Home</i>
<i>Age</i>			
Under 40	170	172	50
40 to 60	221	126	63
Over 60	165	79	67
<i>Income</i>			
Under \$3,000	128	129	50
\$3,000 to \$5,000 .	150	117	56
\$5,000 to \$8,000 .	180	98	65
Over \$8,000	98	33	73

Table 4 presents the results with regard to the type of practicing physician which the respondents were currently utilizing. It also indicates their future preference. There was a greater tendency for those who were being served by "family type physicians" to want to retain this relationship in contrast to those who were seen by specialists or "clinics."

In what area do you feel medical care could be improved in order to be of better service to you and your family?

Approximately two-thirds of these people stated that they were satisfied, or else were unable to suggest improvements or changes. The biggest source of dissatisfaction was the unavailability of physicians for night calls or home visits. Many people disliked waiting to see a physician.

TABLE 4

MEDICAL CARE PREFERENCE NOW VS. CARE IN THE FUTURE

Use Now	Total	Would Like to Use in Future			Per Cent Satisfied
		FAMILY TYPE	SPECIALISTS	CLINICS	
"Family Type"	587	549	14	24	93
Specialists ...	203	71	129	3	73
Clinics	124	52	10	72	53
Total ...	924	672	153	99	

How do you finance the major part of your medical bills?

Six hundred and fifty-one households financed their medical care primarily out of their current income. Twenty-seven financed it from savings and 214 felt that the insurance paid for more than half of their medical care.

Are you in favor of the proposed Social Security Medicare Bill for those over 65? And, are you in favor of raising the social security tax in order to pay for this?

The Medicare plan was opposed by 24.3 per cent and 31.2 per cent felt that they did not know enough about it to give an answer, refused to answer or else had divergent views within the family (Table 5). Medicare was favored by 44.4 per cent. Almost all who favored the proposal were also willing to have the tax increased to help finance it. The Medicare responses of those interviewed initially as compared to the follow-up group of 112 interviews was not appreciably different (Chi square = 1.6, P is between 0.5 and 0.25).

TABLE 5
ANSWERS TO "MEDICARE" PROPOSAL

	Number	Percentage
Opposed to "Medicare"	228	24.3
Undecided	286	30.5
Husband and Wife Differ in Opinion	6	0.6
Refuse to Answer	1	0.1
Favor "Medicare" and a Tax Increase	356	38.0
Favor "Medicare" but Undecided about Tax	36	3.8
Favor "Medicare" but Oppose Tax Increase	24	2.6
Total	937	

There was no correlation between sex or marital status in responses to these questions about Medicare. Other areas in which there was no obvious correlation was the amount of estimated expenses, type of living arrangements (own or rent home, or apartment), and type of medical care arrangement and type of physician consulted. One exception was that those who used the clinic were overwhelmingly in favor of Medicare.

A definite racial factor was evident. Negroes and Mexican-Americans were decidedly in favor of the Medicare proposal. (For the Medicare responses of whites vs. non-whites the Chi square value is 85.06, P is much less than 0.001). Race is apparently the most significant of all the variables considered. There was *less* desire for Medicare among the older age groups than the younger groups in the population. This observation was more pronounced in the white population than in the non-white group. In the latter, as was mentioned, race was a predominate factor and overshadowed any age differential. Table 6 indicates the results of age distribution vs. opinion to Medicare in non-whites. Table 7 indicates the age distribution in Medicare opinions in whites. The distribution of responses among the whites according to age was significantly different.

The white population indicated a progressively greater opposition to Medicare as their incomes increased. This was not so obvious in the non-white populations. Tables 8 and 9 compare the data for income contrasted to attitudes towards Medicare in white and non-whites. For both racial divisions combined the Chi square value for the distribution of responses is 224.1. (P is much less than 0.001.)

Because race, age and income were the principle variables in response to this question, a multiple regression equation was written using these three variables. ($Y = C + B_1X_1 + B_2X_2 + B_3X_3$ where Y was the Medicare response, X_1 was the racial group, X_2 was

TABLE 6
AGE VS. "MEDICARE" OPINION IN NON-WHITES*

	<i>Under 40</i>	<i>40 to 60</i>	<i>Over 60</i>	<i>Total</i>
Oppose "Medicare"	1 (1%)	6 (10%)	2 (5%)	9 (4%)
Undecided	26	12	7	45
Favor "Medicare"	64 (70%)	43 (70%)	31 (77%)	138 (72%)
Total in each age group	91	61	40	192

* The Chi-square for this is 8.22 or with four degrees of freedom, P between 0.10 and 0.25.

TABLE 7
AGE VS. "MEDICARE" OPINION IN WHITES

	<i>Under 40</i>	<i>40 to 60</i>	<i>Over 60</i>	<i>Total</i>
Oppose "Medicare"	56 (22%)	82 (29%)	81 (39%)	219 (29%)
Undecided	94	91	63	248
Favor "Medicare"	102 (41%)	115 (40%)	61 (30%)	278 (37%)
Total in each age group	252	288	205	745

TABLE 8
INCOME VS. "MEDICARE" OPINION IN NON-WHITES

	<i>Under \$3,000</i>	<i>\$3,000 to \$5,000</i>	<i>\$5,000 to \$8,000</i>	<i>Over \$8,000</i>
Oppose "Medicare"	3 (4%)	3 (4%)	3 (10%)	
Undecided	13	26	5	1
Favor "Medicare"	57 (78%)	54 (65%)	22 (73%)	5 (83%)
Total in each income group	73	83	30	6

TABLE 9
INCOME VS. "MEDICARE" OPINION IN WHITES

	<i>Under \$3,000</i>	<i>\$3,000 to \$5,000</i>	<i>\$5,000 to \$8,000</i>	<i>Over \$8,000</i>
Oppose "Medicare"	53 (29%)	44 (24%)	65 (26%)	57 (45%)
Undecided	56	71	88	33
Favor "Medicare"	76 (41%)	70 (38%)	96 (38%)	36 (29%)
Total in each income group	185	185	249	126

the income group and X_3 was the age group). A program was written in Fortran II for solution on IBM 1620 equipment.

A standard least squares procedure was used to calculate on the basis of the discontinuous variables, the constants, C , B_1 , B_2 , B_3 . The code for the equation is summarized in Table 10. The constants for the equation are given in Table 11. Since the F tests were not applicable to the coefficients obtained, the significance of these regression coefficients was determined by utilization of previous Chi-square tests for the significance of the variation of distribution of responses according to these variables. Tables 10 and 11 represent the coding for the multiple regression equation and the solutions obtained.

TABLE 10
CODING FOR MULTIPLE REGRESSION
EQUATION ABOUT ZERO

Quality	Variable	Group	Code for Variable
"Medicare" ...	Y	Opposed	-2
"Medicare" ...	Y	Undecided	0
"Medicare" ...	Y	Favor	+2
Race	X_1	White	+1
Race	X_1	Non-White ...	-1
Income	X_2	Under \$3,000 ..	-3
Income	X_2	\$3,000 to \$5,000	-1
Income	X_2	\$5,000 to \$8,000	+1
Income	X_2	Over \$8,000 ...	+3
Age	X_3	Under 40	-2
Age	X_3	40 to 60	0
Age	X_3	Over 60	+2

Are you in favor of federal help for people of all ages in meeting their medical expense? And, are you in favor of raising taxes to pay for federal help for everyone in meeting their medical expenses?

Table 12 gives the responses to this question regarding the attitudes towards socialized medicine. As in the case of Medicare, almost all who favored the proposal of total socialized medicine also favored a tax increase to help finance it. It will be noted in comparing Tables 5 and 12 that the population interviewed felt there was a need, particularly for medical care financed by the government for people in the older age group, but not for all. A paradox is present in the fact that it is the younger age groups which are more in favor of Medicare than the older group in the population survey. Tables 13 and 14 give the response to proposed socialized medicine vs. age and income groups.

Do you feel that there are people with little or no

TABLE 11
MULTIPLE REGRESSION
EQUATION CONSTANTS

C	= 0.62200967
B_1	= -0.10702181 (Race)
B_2	= -0.49910423 (Income)
B_3	= -0.15257420 (Age)

money who would be refused adequate medical care by all physicians and hospitals?

Two hundred and seven persons felt that there were indigent persons in the United States who would be refused such care by all physicians and hospitals. There was a tendency for those who felt that persons would be refused medical care to be in favor of the Medicare proposal. Lower income groups had a greater tendency to feel that indigent people would be refused adequate medical care.

If you had little or no money would you object to signing a statement swearing that you are unable to pay for the medical care in order to get outside help in financing this care?

Eight hundred and one people indicated their willingness to sign a means test. There was very little difference in opinion as far as income group was concerned, and only a slightly greater opposition to signing such a statement was apparent as the age of the group increased.

Discussion

An attempt was made in this survey to insure a completely randomized sample of the metropolitan population, stratified only according to the variables which were under study. It is obvious that as well as

TABLE 12
RESPONSES TO TOTAL
SOCIALIZED MEDICINE

	Number
Opposed to Socialized Medicine	473
Undecided	129
No Opinion	2
Favor Socialized Medicine and Favor a Tax Increase	254
Favor Socialized Medicine and Undecided on Tax Increase	61
Favor Socialized Medicine but Against a Tax Increase	18
Total	937

TABLE 13
RESPONSE TO PROPOSED SOCIALIZED MEDICINE VS. AGE GROUP

	<i>Under 40</i>	<i>40 to 60</i>	<i>Over 60</i>	<i>Total</i>
Opposed	152 (44%)	180 (52%)	141 (57%)	473 (50%)
Undecided	42	53	36	131
Favor	149 (43%)	116 (33%)	68 (28%)	333 (35%)
Total in each age group	343	349	245	937

TABLE 14
RESPONSE TO PROPOSED SOCIALIZED MEDICINE VS. INCOME GROUP

	<i>Under \$3,000</i>	<i>\$3,000 to \$5,000</i>	<i>\$5,000 to \$8,000</i>	<i>Over \$8,000</i>	<i>Total</i>
Opposed	101 (39%)	124 (46%)	156 (56%)	92 (70%)	473 (51%)
Undecided	41	34	38	18	131
Favor	116 (45%)	110 (41%)	85 (30%)	22 (16%)	333 (35%)
Total in each group	258	268	279	132	937

age and income there are many other factors which are related, such as type of occupation, neighborhood, type of residence, etc. The only factor that is not "normally" distributed in this sample is the sex of the respondents. Because of the time at which interviews were conducted, slightly over 70 per cent of the sample were women. Therefore, the information obtained is not from a completely random sample of the entire community. Approximately 67 per cent of all interviews in which contact was made with an adult were completed. This also introduces some

error into the study. It would have been more desirable to have had a response rate higher than this.

The increase in dependency upon hospital emergency rooms for care at nights and weekends by younger groups of individuals is not surprising. This may reflect a general change in the pattern of visitation to emergency services at hospitals, and a decreasing availability of physicians during "off hours." One of the most interesting aspects of the study was the distribution of patients going to "family-type physicians" vs. specialists. Of importance is the fact that there was a much higher degree of "satisfaction" among the group going to "family physicians" than those seen by specialists. This tendency is countercur-rent to the attitudes among physicians toward special-ization.

The response to the Medicare question may be sum-marized as follows: Race was the most significant variable in the group under study. The non-white population indicated a strong preference for Medi-care and the supporting tax structure which would be necessary. In the white population resistance to medi-cal care increased with age, and with income. The fact that the younger patient with less income is willing to look to the future and attempt to find se-curity against the cost of illness in his remote, but anticipated older age, is perhaps indicative of the cultural changes in the United States. As mentioned

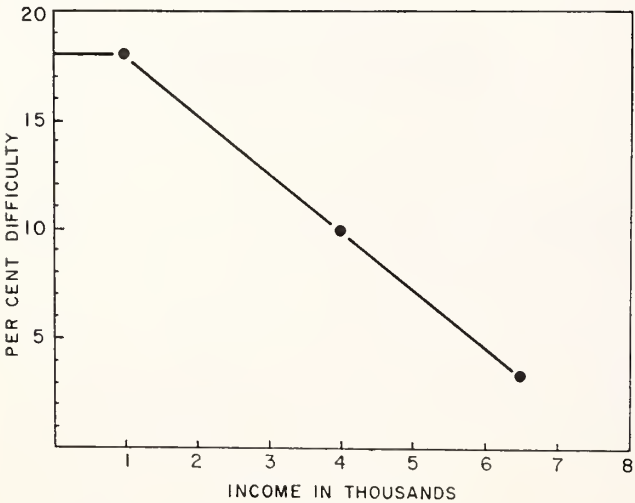


Figure 1

(Continued on page 135)

The Di Guglielmo Syndrome

Report of an Unusual Case with Basophilic Leukocytosis

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A PATIENT WHO HAD the Di Guglielmo syndrome was observed to have as high as 33 per cent basophilic leukocytes in the peripheral blood. Increased numbers of basophils in this syndrome are apparently an unusual phenomenon. A review of the literature revealed only three patients who had the Di Guglielmo syndrome with five per cent or more basophilic leukocytes in their blood.^{5, 9, 12}

Our patient was seen in the stage of preponderant erythroblastic proliferation of the bone marrow. The unusual finding of basophilic leukocytosis is presented in detail. The diagnostic value of the periodic-acid-Schiff (PAS) stain is discussed.

Case Report

A 76-year-old housewife was admitted to the University of Kansas Medical Center on February 22, 1961, because of weakness, shortness of breath, and pain in the chest. For a few weeks prior to admission she had had shortness of breath and substernal pain when she walked across a room, swelling of her feet and ankles, and intermittent numbness of the right side of her body. X-ray therapy had been given at about 46 years of age because of "fibroids." Family history revealed no blood dyscrasias. A brother had carcinoma of the colon.

She was a thin, elderly, white woman whose pulse was 84 beats per minute and blood pressure 160/65 mm. Hg. The conjunctivae were pale, and there was an old exudate in the right retina. Lymph nodes were not enlarged. The lungs were clear to percussion and auscultation. The liver was palpable at the right costal margin. The spleen was not palpable. Vibratory sensation was absent in the lower extremities. Station was unsteady with the eyes closed and steady with the eyes open. Pelvic examination revealed a small mass in the region of the right adnexa, and radiographs showed a calcified mass in this area. Procto-

scopic examination revealed a 1.5 x 1 cm. polyp at 7 cm. and a 2 x 2 cm. polyp at 13 cm. from the anus. A barium enema examination revealed a polypoid lesion of the sigmoid colon.

Hematologic data are charted in Table 1. In addition, anisopoikilocytosis was present. The VDRL test was non-reactive. The total serum bilirubin was 0.8 mg. (0.1 mg. direct), iron 290 mcg. (100 per cent saturation), uric acid 4.1 mg., blood urea nitro-

A 76-year-old woman with the Di Guglielmo syndrome had as high as 33 per cent basophilic leukocytes in her blood. Only three patients who had the Di Guglielmo syndrome with five per cent or more basophils in their blood have been reported previously.

Striking PAS positivity of many erythroid cells of the bone marrow, especially of the more immature and bizarre forms, seems to be a useful diagnostic feature of the syndrome. Only two other diseases (iron deficiency anemia and thalassemia major) are known to produce erythroid cells having so strong an affinity for PAS.

gen 13 mg., and two-hour post prandial glucose 164 mg. per 100 cc. The total serum protein was 5.06 gm. with albumin of 1.83 gm., α_1 globulin of 0.44 gm., α_2 globulin of 0.59 gm., β globulin of 0.97 gm., and γ globulin of 1.24 gm. per 100 cc. Coombs' test was negative. Urinary urobilinogen was 10.49 mg. in 24 hours. Gastric analysis showed no free acid after betazole hydrochloride stimulation. Eighteen per cent of orally administered cobalt⁶⁰ labeled vitamin B₁₂ was excreted into the urine within 24 hours (normal five per cent or greater). The apparent erythrocyte half-life, using chromium⁵¹ labeled cells was 21 days (normal 28 days).

The cellularity of the bone marrow was increased. The cells were almost entirely of the erythroid series

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TABLE 1
HEMATOLOGIC DATA

	2/22/61	3/6/61	3/27/61
WBC/cu. mm.	3,225	2,100	2,800
Neutrophils	18%	18%	19%
Filamented	14%	17%	13%
Nonfilamented	4%	1%	6%
Metamyelocytes	0	0	2%
Myelocytes	0	0	2%
Basophils	19%	33%	30%
Eosinophils	2%	3%	0
Eosinophilic Myelocytes	5%	0	1%
Lymphocytes	45%	42%	41%
Monocytes	8%	4%	2%
Blasts	1%	0	2%
Undifferentiated			
Immature Cells	2%	0	0
Plasma Cells	0	0	1%
Nucleated			
RBC/100 WBC	1	0	0
Hemoglobin			
(gm./100 c.c.)	6.1	9.8	8.9
Hematocrit	20.5%	27.0%	26.5%
RBC/cu. mm.	1,950,000		
MCHC	29.7%		
MCH (μ gm.)	31		
MCV (cu. μ)	106		
Reticulocytes	7.0%	1.4%	2.4%
Platelets/cu. mm.	62,000	40,000	118,000

with only an occasional myeloid cell. There was a striking shift to the left in the erythroid series. Many of the young erythroid cells were very large, and there were many mitotic figures and much nuclear fragmentation of a bizarre pattern (Figure 1). Many of the immature erythroid cells stained with Wright's stain had vacuoles in their cytoplasm (Figure 1). PAS positive granules are seen in the cytoplasm of similar cells (Figure 2). Basophils were less than one per cent, and megakaryocytes appeared normal in morphology and quantity. The bone marrow iron stain, using Berlin blue, was 1+ (1-4 range).

After diagnostic blood and bone marrow examinations were performed, she received blood transfusions. Her symptoms of cerebral vascular and coronary insufficiency then decreased. After malignant cells were seen on cervical smears, a conization of the cervix revealed a moderately well differentiated squamous cell carcinoma of the cervix with probable early invasion.

Following her discharge on March 28, 1961, she received transfusions frequently. On August 1, 1961, her white cell count was 5,200 per cu. mm. with 11 per cent basophils. She died on November 28, 1961.

Discussion

In 1917, Di Guglielmo⁶ described a case of combined erythroid and myeloid proliferation of the bone marrow which he called erythroleukemia. Six years later he published his first case of erythremic myelosis. He described it as a specific disease characterized by proliferation of erythroid cells analogous to the proliferation of myeloid cells in leukemia.⁷ A similar case had been published by Copelli in 1912.

Dameshek and Baldini define the term "Di Guglielmo syndrome" as the condition which "if it runs out its full course, passes through several stages: (1) preponderant erythroblastic proliferation of the bone marrow; (2) mixed erythroblastic-myeloblastic growth; and finally, (3) preponderant myeloblastic proliferation." The syndrome has occurred in all age groups, with cases documented from ages two months¹⁷ to 85 years.¹⁶ Hepatosplenomegaly, fever and thrombocytopenic purpura are common; lymphadenopathy and jaundice are less frequent.^{1, 10, 13, 14, 16}

Pancytopenia is frequently seen in the Di Guglielmo syndrome, but leukocytosis may be present. Differential counts vary widely, and both immature myeloid and immature erythroid cells are usually seen in the blood at some stage of the disease. Although many nucleated red cells have been found in the blood of most patients, repeated counts over a 33 day period revealed no more than three nucleated red blood cells per 100 white blood cells of our patient. The occurrence of "anerythroblastic" forms in which few nucleated red cells are present in the peripheral blood, despite severe erythroblastic hyperplasia of the marrow, has been likened to aleukemic leukemia.¹ The anemia is usually macrocytic and is due to ineffective

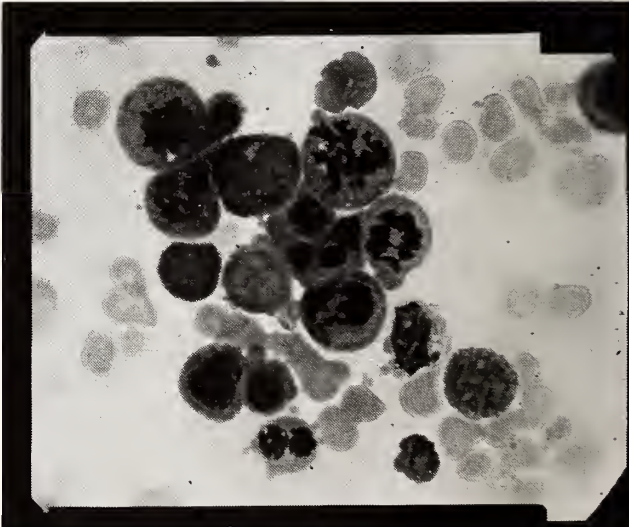


Figure 1. Bone marrow × 900. Wright's stain. Photomicrograph shows nuclear fragmentation and vacuoles in the cytoplasm of immature erythroid cells.

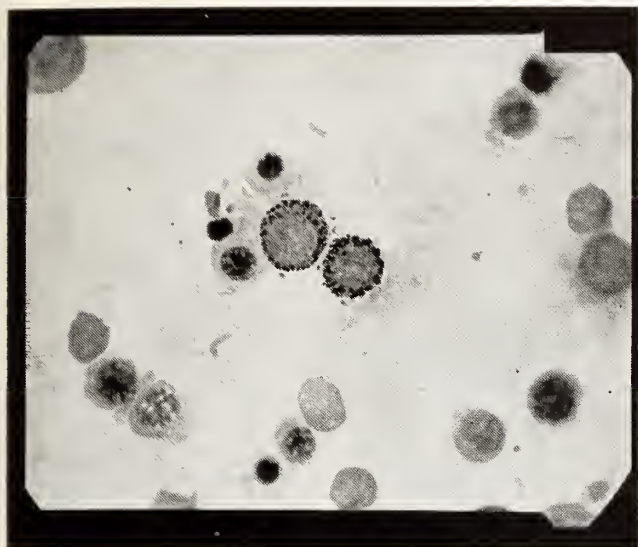


Figure 2. Bone marrow $\times 900$. PAS stain. Coarse PAS positive granules are seen in cytoplasm of prorubricytes.

erythropoiesis and hemolysis of defective red blood cells.¹

The duration of the syndrome has varied from about one month^{5, 11, 13} to 11 years¹ and has not been found to correlate well with the degree of erythroblastemia or with the immaturity of the erythroid cells in the bone marrow. Because of basophilic leukocytosis as high as 33 per cent in our patient, we reviewed the literature to see if it might be a useful prognostic sign. Basophilic leukocytosis is common in other myeloproliferative diseases such as chronic granulocytic leukemia, particularly in the acute terminal phase.^{2, 8} Since the Di Guglielmo syndrome may terminate as acute granulocytic leukemia, basophilic leukocytosis might be expected in some of the patients. We found reports^{5, 9, 12} of only three patients who had five per cent or more basophils in their blood. The highest basophilic leukocytosis previously recorded was 31 per cent.¹² The longest survival after basophilic leukocytosis was noted was 60 days.¹² Our patient lived nine months after basophilic leukocytosis was discovered. Not enough patients having basophilic leukocytosis have been observed to determine its value as a prognostic sign.

The PAS reaction appears to be useful in the diagnosis of the Di Guglielmo syndrome.¹⁵ Nucleated red blood cells showing strongly positive PAS reactions are seen in Figure 2. This stain gives most striking results in some of the more bizarre and immature erythroid cells which have coarse, red granules in their cytoplasm. The bizarre erythropoietic pattern found in our patient (Figures 1 and 2) is characteristic of this syndrome. It was found that the most intensely positive PAS reactions occurred in patients exhibiting the most striking cytologic and mitotic abnormalities.¹⁵ A variety of hematologic diseases were

studied, and in only two of them did the PAS reaction of the erythroblasts approach the intensity seen in the Di Guglielmo syndrome. These were iron deficiency anemia and thalassemia major. The erythroblasts of patients with certain diseases that might be confused with the Di Guglielmo syndrome such as pernicious anemia, nutritional macrocytic anemia, and polycythemia were uniformly PAS negative.¹⁵ In our patient PAS positivity helped to exclude the diagnosis of pernicious anemia which was suggested by the macrocytic anemia, achlorhydria and loss of vibratory sense in the lower extremities.

Summary

A 76-year-old woman with the Di Guglielmo syndrome had as high as 33 per cent basophilic leukocytes in her blood. Only three patients who had the Di Guglielmo syndrome with five per cent or more basophils in their blood have been reported previously. All died within two months after basophilic leukocytosis was discovered. Our patient lived nine months after basophilic leukocytosis was discovered.

Striking PAS positivity of many erythroid cells of the bone marrow, especially of the more immature and bizarre forms, seems to be a useful diagnostic feature of the syndrome. Only two other diseases (iron deficiency anemia and thalassemia major) are known to produce erythroid cells having so strong an affinity for PAS.

References

1. Baldini, M.; Fudenberg, H. H.; Fukutake, K., and Dameshek, W.: The anemia of the Di Guglielmo syndrome. *Blood* 14:334-363, 1959.
2. Casey, A. E.; Nettles, T. E., and Hidden, E. H.: Basophilic leukemia. *Southern Med. J.* 39:325-332, 1949.
3. Copelli, M.: Di una emopatia sistemizzata rappresentata da una iperplasia eritroblastica (eritromatosi). *Pathologica* 4:460-465, 1912.
4. Dameshek, W., and Baldini, M.: The Di Guglielmo syndrome. *Blood* 13:192-194, 1958.
5. Denolin-Reubens, R., and Delcourt, R.: Un nouveau cas d'érythroleucémie: Etude anatomo-clinique. *Acta Haemat.* 2:390-398, 1949.
6. Di Guglielmo, G.: Ricerche di ematologia. I. Un caso di eritroleucemia. *Folia Med.* 3:386-396, 1917.
7. Di Guglielmo, G.: Eritremie acute. *Atti Congr. Italiano Med. Int.*, 1923. Cited by Baldini et al.¹
8. Doan, C. A., and Reinhart, H. L.: The basophil granulocyte, basophilcytosis, and myeloid leukemia, basophil and "mixed granule" types; an experimental, clinical and pathological study, with the report of a new syndrome. *Amer. J. Clin. Path.* 11:1-39, 1941.
9. Fitzgerald, P. J.; Mallory, G. K., and Parker, F.: Erythroblastemia: report of a case. *Cancer* 3:504-510, 1950.
10. Hayhoe, F. G. J.: Leukaemia: research and clinical practice, Boston, Mass., Little, Brown, and Co., 1960.
11. Komiya, E., and Ito, K.: "Erfahrungen über die Erythroleukämie," In Proceedings of the Seventh International Congress of the International Society of Hematology, Rome, 1958, Vol. I, New York, N. Y., Grune and Stratton, 1960; pp. 301-306.
12. Lüdén, H.: Zur Klinik und Hämatologie der Erythro-myelosen. *Acta Haemat.* 4:321-342, 1950.

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On the Other Hand—

Laterality, Dominance, and Language

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CHILDREN DISPLAY more difficulties distinguishing between the words "left" and "right" than they do between such other directional coordinate words as "high-middle-low-front-back." This left-right confusion appears to be a focal language problem and not representative of basic sensory-motor difficulties in spatial perception. Since we do not have absolute clues for our spatial relationships to the outside world, we must have a point of reference around which to organize relative impressions; this point of reference is self. Such directional coordinates as "up" and "down," "front" and "back," "left" and "right" are directions away from or towards the self. Piaget, Kephart, and others^{11, 16, 17} have written how the self-body image provides a solid basis from which the child develops complex perceptual-motor skills. Kephart has developed with his 11 perceptual-motor tests an instrument which measures the child's ability to perform on a perceptual-motor basis relative to these various directionality coordinates. Roach has recently provided normative standardization for these 11 Kephart performance tests.

With the growth of directional perceptual-motor skills there is a concomitant growth of verbal symbols associated with directionality, with the sole exception being the lag and frequent absence of "left" and "right." Children seem to learn the meaning of the words "up" and "down" and "before" and "behind" many years before they learn the meaning of the words "left" and "right," perhaps because of a "differentness" in these directionality coordinates. For "up" and "down" the individual has no freedom of choice in response. Everything is down unless by use of anti-gravity muscles and special structuring the individual is able to maintain the up position. There is, therefore, a bias for downwardness. There is also a bias for "frontness." The human being reacts primarily to the world in view, that which is in front of us. We lack receptors to perceive well the world behind us. For sidedness, however, we have a freedom of choice for either left or right. There is no bias to go either direction until the development of hand preference occurs. After the emergence of handedness, and apparently not before, the individual has a sidedness bias towards the side of his preferred hand. It might well be postulated that the bias for particular directionality coordinates, such as "down"

and "front," aids the individual in learning the meaning of the word names; the learning of the meaning of the words "left" and "right" is perhaps delayed until the bias of handedness is imposed. For some individuals "left-right" discrimination presents a problem throughout childhood and may even extend through adult life.

Laterality

For various reasons, the educator has long had an interest in the development of handedness in the

In the study of cerebral function and language, the understanding of laterality and cerebral dominance is fundamental. No single group can claim this field exclusively. The behaviorist, neuroanatomist, neurosurgeon, speech pathologist-audiologist and educator are all involved in the problem and must draw upon each other's efforts to achieve the maximum knowledge in this area.

child. Handedness implements directionality, particularly in perceptual-motor behavior related to laterality. There are many conflicting statements relative to the emergence of handedness in children, and one must search the literature to develop a consensus of opinion. While hand preference may appear earlier, Gesell and others⁷ state that by approximately four years of age children show consistent and firm signs of unilateral hand preference. This unilateral manual skill preference continues to exist until about the seventh year. At age seven, for reasons that are not fully known, the child again shows competency in bilateral manual activities;⁶ he continues to demonstrate unilateral hand preference for the act of writing for which he is receiving instruction in school. By age eight, probably influenced by this writing instruction, the child shows a unilateral preference for hand which persists throughout the rest of life. While most children demonstrate a native preference for one hand independent of training, some children appear to have an early and acquired predilection for hand preference, either the result

of a central or peripheral injury, or the result of teaching. There appears to be a much greater tolerance in our culture today for left-handedness, and few children are subjected to dextrality training when they are natively endowed sinistrals. A recent study by Clark found about eight per cent of elementary school boys were left-handed writers and about six per cent of the girls used their left hands. Clark states that approximately seven per cent of our average population appear to be left-handed. Harris, in using the Harris Test of Lateral Dominance, has found a high proportion of mixed handedness among children, particularly among poor readers. Of clinical interest is Harris' observation that determination of eyedness and footedness does not provide too much information relative to lateral dominance, with the relationship of eyedness and footedness reported as relatively poor. After some years of testing eye and foot preference in a clinical speech and language setting, this writer cannot recall a single instance when this information influenced speech or language therapy in any particular direction.

Preference for left hand or right hand appears as something independent from the ability to discriminate verbally between left and right. Average children appear to learn the verbal discrimination of spatial opposites (such as "up" and "down") at an early age, but persist into the school years having difficulty with the discrimination of "left" and "right." Benton³ in a series of studies on finger localization has reported serious difficulties exhibited by many youngsters in making the verbal distinction between left and right. Belmont and Birch recently reported that five year old children have severe problems in discriminating between left and right, and that normal children do not until age ten demonstrate consistent success in distinguishing between left-right directions. It appears that several years are required after the emergence of handedness before the child can correctly discriminate "left" from "right." Left-right discrimination confusion was expressed well by Hebb when he wrote that children may learn early that "'right' and 'left' each refers to a side of the body—but, ah me, which one?" Benton has even concluded that many of the body image problems displayed by children are not body image problems per se, but represent a language problem in the comprehension of the words "left" and "right."

It is more and more recognized that there is a need for comprehensive normative data on language development, even related to functional usage of particular words. At the present time at the University of Kansas Medical Center, we are developing a test instrument which will measure the child's comprehension of spoken directionality dimensions, such as "high-middle-low-left-right." Although we will be investi-

gating the vertical dimension of "high-middle-low," the focus of our test will be in determining the child's success in the verbal discrimination between "left" and "right." The vertical-horizontal axis, with the self as the central zero point, appears basic to early learning. Certainly our early teaching endeavors in such subjects as reading, writing, music, and arithmetic employ various verbal concepts of laterality such as "left" and "right." We use such words as "high-middle-low-left-right" in our preschool and early primary teaching, yet there is no normative evidence when these words should be present in the recognition vocabulary of the children. From our pilot data collected at this time, it appears that not until nine or ten years of age are normal children able to make correctly "left" and "right" discriminations. While group data shows that most youngsters ten years of age have little difficulty making a left-right discrimination, this task even at this age may present impossible hurdles to particular youngsters. Perhaps we need to test routinely the left-right discrimination abilities of school children and teach those with left-right discrimination difficulties with a program of special instruction to distinguish "left" from "right." The learning of reading, writing, arithmetic, and music may be hampered for the youngster with left-right discrimination difficulties. For example, the only visual difference between the orthographs "b" and "d" is one of laterality; in one instance the stem is to the left of the circle and for the "d" the stem is to the right of the circle. Reading in our culture basically requires a left to right movement; arithmetic generally requires a right to left direction.

Dominance

Handedness does not appear to contribute too much to the establishment of cerebral dominance. Traditionally, we have been told that by using the right hand we would be developing the left cerebral hemisphere as the dominant hemisphere for language. The primary advantage in using one hand is for the development of the fine motor-skill required for writing. Hand preference also appears to aid in the development of the discrimination between left and right, since it appears from the developmental data that we learn the words "left" and "right" after we have established some unilateral hand preference. Roberts¹⁵ has stated that cerebral dominance appears unrelated to which hand we use. One cerebral hemisphere appears to take the lead in establishing the high verbal behavior of language, and in most cases this appears to be the left cerebral hemisphere, regardless of handedness. It is commonly observed among aphasics, those patients with aphasia who had normal language functions before

cerebral insult, that these aphasic patients have left cerebral hemisphere damage. Penfield and Roberts¹⁵ reported that 73.1 per cent of 175 patients after left hemisphere surgery demonstrated symptoms of aphasia; 115 of 157 patients (73.2 per cent) were right handed and 13 of 18 patients (72.2 per cent) were left handed. A dramatic contrast in incidence of aphasia after brain operation is seen in their results for 211 patients with right hemisphere lesions; one of 196 patients (0.5 per cent) was right handed and one of 15 patients (6.7 per cent) was left handed. The over-all incidence of left hemisphere lesions producing aphasia was 73.1 per cent and for right hemisphere lesions producing aphasia the incidence was 0.9 per cent. The literature on aphasia includes studies by Bauer, Wepman, and others^{1, 10, 19} who state the incidence of right hemisphere lesions and symptoms of aphasia as extremely low with gross language symptoms observed primarily among those patients with left hemisphere lesions.

We have also learned from our acquired brain damaged population of children that a severe and persistent aphasia rarely occurs from unilateral cerebral damage before the age of nine or ten years. The children we see who have a unilateral cerebral lesion and then show symptoms of aphasia, invariably have left hemisphere lesions; however, if they are under age nine they make rapid and complete language recoveries. Sugar stated in 1952 that in children between five and ten years of age injury to the dominant hemisphere produced only a temporary aphasia. After the age of ten years, language symptoms persist and often intensive language retraining is required.

The speech pathologist-audiologist and educator are often handicapped in their considerations of dominance and cerebral function by the limiting concept of "cortical damage." In reality, there are few patients we see who have discrete cortical lesions. Most cerebral pathologies are related to blood supply changes within the cerebrum; either a blood *quantity* deprivation (such as the vascular occlusion noted in the typical CVA) or a blood *quality* deprivation (such as observed in anoxia or toxemia). Sub-cortical areas of the brain are most vulnerable for destruction from these blood quantity-quality deprivations. Most of our aphasic patients have sub-cortical destruction as the primary sites of cerebral damage. Penfield has developed an excellent discussion of cortico-thalamic and thalamo-cortical tracts and their importance in language. Elaborate dissection of sub-cortical areas by Ludwig and Klingler have shown detailed cortical-subcortical anatomical relationships which when intact are believed to be vital for the development of language.

There is some evidence that in young children who show developmental aphasia, who have never developed language in spite of relatively normal intelli-

gence, that these children have bilateral cerebral lesions.¹⁸ From the clinic observations of youngsters and adults who acquire aphasia, it would appear that in most cases the aphasia has been caused by sub-cortical lesions within the left cerebral hemisphere. Before the age of nine or ten years, however, the child who demonstrates some language difficulty because of incurred left hemisphere damage will usually show a rapid and complete recovery. This suggests that the firm establishment of cerebral dominance does not take place until after the ninth or tenth year. There are indications that the establishment of dominance within the left cerebral hemisphere will occur regardless of handedness. Further studies relative to the development of handedness and establishment of cerebral dominance are needed.

Conclusion

Consideration of handedness, laterality, and dominance is not the sole province of any particular discipline. In our efforts to improve our own disciplines, we must not ignore or reject the literature and findings of other disciplines. While it is not the job of the educator, psychologist, or speech pathologist-audiologist to postulate lesions, it is our task to describe and identify the behavior of the child. It is still necessary, whenever possible, to make some identification of the etiology of a child's problem. For example, the language behavior of the deaf child differs characteristically from that of the child with an over-all mental retardation, and our teaching approach for these two different children requires some differentiation of etiology. We continue to have a great need to crossover among disciplines for the common goal of understanding the child. In recent years we have seen the interdisciplinary approaches towards the child with perceptual-motor problems and language disorders. Kephart and his directionality tests have provided us with measures for assessing the child's early perceptual-motor behavior. Kirk's Illinois Test of Psycholinguistic Abilities has provided not only the educator but the speech pathologist-audiologist with a valuable instrument for assessing the over-all language abilities of the child. The speech pathologist has contributed information relative to the speech articulation and language development of the child; our interest at the University of Kansas Medical Center in developing a test to measure left-right discrimination is an example. Certainly the many non-verbal intelligence tests of the psychologist provides a view of the language impaired child we could not have without such tests.

Future developments in the relationship of language to cerebral function are going to demand even more of an interdisciplinary approach. As behaviorists we cannot afford to get too antistructural in our think-

ing. We need to develop an awareness of the work of the neuroanatomist and neurosurgeon. We need, also, to develop some familiarity with the capabilities of the computer. For in the immediate years ahead we can predict a joining of forces of the behaviorist, the neuroanatomist and the neurosurgeon, with able assistance from the computer, in attempting to explore cerebral function and its relationship to language. An immediate task, therefore, for the behaviorist is the recognition of need to develop measurements based on valid instrumentation. We still cannot intelligently discuss language development until we first develop comprehensive normative data. In the final analysis, the child with the language disorder will be an educational problem requiring our teaching and our special education techniques. As part of the tremendous surge of interest in cerebral function and language, we, the behaviorists, need to be there actively representing the behavioral characteristics of the child.

References

1. Bauer, R. W., and Wepman, J. M.: Lateralization of cerebral functions. *Journal of Speech and Hearing Disorders*, 1955, 20:171-177.
2. Belmont, L., and Birch, H. G.: Lateral dominance and right-left awareness in normal children. *Child Development*, 1963, 34:257-270.
3. Benton, A. L.: *Right-left discrimination and finger localization*. New York: Hoeber-Harper, 1959.
4. Benton, A. L. Significance of systematic reversal in right-left discrimination. *Acta Psychiatrica Et Neurologica Scandinavica*, 1958, 33:129-137.
5. Clark, M. M.: *Teaching left-handed children*. New York: Philosophical Library, Inc., 1959.
6. Gesell, A., and Ames, L. B.: The development of handedness. *Journal of Genetic Psychology*, 1947, 70:155-175.
7. Gesell, A., et al.: *The first five years of life*. New York: Harper & Brothers, 1940.
8. Harris, A. J.: Lateral dominance, directional confusion, and reading disability. *Journal of Psychology*, 1957, 44:283-294.
9. Hebb, D. O. *Organization of behavior*. New York: John Wiley & Sons, 1962. p. 118.
10. Humphrey, M. E., and Zangwill, O. L.: Dysphasia in left-handed patients with unilateral brain lesions. *Journal of Neurology, Neurosurgery, and Psychiatry*, 1952, 15:184-193.
11. Kephart, N. C.: *The slow learner in the classroom*. Columbus, Ohio: Charles E. Merrill Books, Inc., 1960.
12. Kirk, S. A., and McCarthy, J. J.: *The Illinois Test of Psycholinguistic Abilities*. Urbana, Illinois: University of Illinois Press, 1961.
13. Ludwig, E., and Klingler, J.: *Atlas cerebri humani*. Basel: S. Karger, 1956.
14. Morrow, R. S., and Mark, J. C.: The correlation of intelligence and neurological findings on 22 patients autopsied for brain damage. *Journal of Consulting Psychology*, 1955, 29:283-289.
15. Penfield, W., and Roberts, L.: *Speech and brain-mechanisms*. Princeton: Princeton University Press, 1959.
16. Piaget, J., and Inhelder, B.: *The child's conception of space*. London: Routledge and Kegan Paul, 1956.
17. Roach, E. G.: The perceptual-motor survey: a normative study. Unpublished study. Purdue University, 1962.
18. Sugar, O.: Congenital aphasia: an anatomical and physiological approach. *Journal of Speech and Hearing Disorders*, 1952, 17:301-304.
19. Zollinger, R.: Removal of left cerebral hemisphere. *Archives of Neurology and Psychiatry*, 1935, 34:1055-1064.

Medical Care

(Continued from page 128)

before, both race, age and income were all significant according to Chi-square tests of distributions. The predictive equation was generated to allow its theoretical use in the prediction of the responses to be obtained in any population in which the age, income and race distribution had been specified. While a total of 24 per cent of the population was opposed to Medicare and 44 per cent were in favor, over 30 per cent of the population was undecided.

Summary

A total of 937 households were interviewed in order to determine attitudes toward medical care in relationship with certain variables such as race, income and age. Very few of the people interviewed felt that they had any difficulty in obtaining medical services. A need for a Medicare program for older citizens was expressed by 44 per cent; 22 per cent of those contacted felt that there were indigent people who would be refused medical care by all doctors and hospitals. The majority of people felt that they knew a physician who would come to their house at night if they needed medical care.

A definite preference was expressed for the "family-type physician." Satisfaction with type of physician was highest among those with a "family physician." Non-white respondents were distinctly in favor of Medicare in all age and income groups. The white population in the study indicated a preference for Medicare which was higher in the lower income and lower age groups. In contrast to this, 35 per cent favored complete socialized medicine, and 50 per cent opposed such a proposal. Over 90 per cent of those interviewed indicated a willingness to sign a "means test" in order to obtain financial assistance in meeting their medical expenses.

The Di Guglielmo Syndrome

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13. Neumark, E.: Acute erythraemic myelosis: Di Guglielmo's disease. In *Proceedings of the Seventh International Congress of the International Society of Hematology*, Rome, 1958, Vol. I, New York, N. Y., Grune and Stratton, 1960; pp. 296-300.
14. Parekh, J. G., and Ichaporia, R. N.: Acute erythremic myelosis: Report of four cases with review of literature. *Indian J. Med. Sci.* 14:9-16, 1960.
15. Quaglino, D., and Hayhoe, F. G. J.: Periodic-acid-Schiff positivity in erythroblasts with special reference to Di Guglielmo's disease. *Brit. J. Haemat.* 6:26-33, 1960.
16. Sheets, R. F.; Drevets, C. C., and Hamilton, H. E.: Erythroleukemia (Di Guglielmo syndrome). *Arch. Intern. Med.* 111:295-306, 1963.
17. Wegelius, R., and Peltonen, T.: Erythraemic myelosis (Di Guglielmo) in an infant. *Acta Paediat. (Stockholm)* 43:280-288, 1954.

Tumor Patterns

Cancer of the Uterus in Africa South of the Sahara

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THE ROLE OF GEOGRAPHICAL pathology studies in identifying possible causative factors in human cancer is increasingly recognized. Until recently, however, adequate incidence statistics for cancer morbidity have been limited to North America and Western Europe, where environmental conditions tend to be comparable. In many developing countries from which cancer statistics would be of great value workers have been dependent on relative ratios, such as that of corpus to cervix uteri as an index of incidence. The fallacy of utilizing such ratios alone as an index of incidence is well known and can be readily appreciated from Tables 1 and 2 which present incidence rates and relative ratios for carcinoma of the corpus and cervix uteri in the United States white and non-white population at different age groups. In the U. S. white population in the 30-35 age group, for example, the incidence of carcinoma of the cervix is 22.8 per 100,000 as compared to 55.8 in the U. S. non-white, but the relative ratio of corpus to cervix would give the impression that the difference between the two racial groups is almost three times greater. Furthermore, the great variation in ratios caused by age even in the same racial group can be noted.

Early work from South, East, and West Africa indicated that carcinoma of the uterus was relatively common among the indigenous female population as compared to other cancers and that the ratio of cancer of the cervix to corpus uteri was very high especially in the South African area.^{1, 5, 7, 8, 12, 13} It was impossible, however, with the data then available to determine whether these high relative ratios were due to a rarity of all cancers, or cancer of the body or to an absolute increase in cervical carcinoma; nor were medical facilities sufficient to permit the collection of more satisfactory data.

More recent studies have now become available from South Africa, Mozambique and Uganda which permit the calculation of accurate morbidity rates for cancer in limited population groups and have shown some of the biasing factors involved. In addition, these rates provide a more satisfactory basis for the

interpretation of relative ratios in other areas in West and East Africa where rates are as yet unavailable.

It would appear of value to review the more recent reports on the absolute incidence of cancer of the uterus in this continent where the population differs significantly in cultural and economic habits from that in the United States, first, to determine whether the absolute frequency of uterine cancer is in accord with the earlier reports of a high incidence and second, whether the distribution within the continent is in accord with current hypotheses regarding causation.

The newer data on the incidence of carcinoma of the uterus in Africa indicate that the incidence of cervical carcinoma is very high in the South African Bantu but is lower than anticipated in Mozambique, East and West Africa. In contrast endometrial carcinoma is almost unknown among the Bantu of South Africa but is moderately frequent among the Negroes of East and West Africa. While the high incidence of cervical carcinoma in South Africa is consistent with present hypotheses on the etiology of cervical carcinoma, the lower incidence in other areas cannot be fully explained as yet. No satisfactory explanation can be offered for the rarity of endometrial carcinoma in South Africa.

Republic of South Africa

CARCINOMA OF THE CERVIX

The people of South Africa have been described previously.¹⁴ The Bantu Negro forms the predominant racial group. In the urban Bantu population of Johannesburg, carcinoma of the cervix was the most common malignant tumor observed in the females in the incidence survey (1953-55),¹⁴ accounting for 41 per cent of all cancers. The rates in this survey were carefully checked and are reasonably accurate. The incidence was higher than in the United States white but less than in the United States non-white population (Table 3). The incidence, however, was

* Based on a paper presented at a symposium on Cancer of the Uterus held under the auspices of the Geographical Pathology Committee of the International Union Against Cancer, Mexico City, February, 1964.

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TABLE 1
RATIO OF CANCER OF THE CORPUS
UTERI AND CERVIX UTERI AT
DIFFERENT AGE GROUPS
U. S. WHITES*

Age Group	Rate/100,000		Ratio Corpus:Cervix
	CORPUS	CERVIX	
20-	0.4	2.2	1: 5.5
25-	0.5	5.4	1:10.8
30-	2.8	22.8	1: 8.1
35-	3.3	35.3	1:10.7
40-	7.8	58.9	1: 7.5
45-	23.3	76.8	1: 3.3
50-	30.6	88.1	1: 2.9
55-	39.9	94.6	1: 2.4
60-	39.3	86.1	1: 2.2
65-	43.0	77.9	1: 1.8
70-	33.3	79.4	1: 2.4
75-	24.7	74.1	1: 3.0

* Based on 10 city survey.⁹

TABLE 2
RATIO OF CANCER OF THE CORPUS
UTERI AND CERVIX UTERI AT
DIFFERENT AGE GROUPS
U. S. NON-WHITES*

Age Group	Rate/100,000		Ratio Corpus:Cervix
	CORPUS	CERVIX	
20-	0.0	6.3	0: 0.0
25-	0.0	22.3	0: 0.0
30-	1.0	55.8	1:55.8
35-	2.1	93.0	1:44.3
40-	5.2	113.0	1:21.7
45-	12.0	156.3	1:13.0
50-	28.2	145.1	1: 5.1
55-	47.1	167.7	1: 3.6
60-	41.8	188.1	1: 4.5
65-	52.8	228.7	1: 4.3
70-	50.5	219.1	1: 4.3
75-	87.3	160.1	1: 1.8

* Based on 10 city survey.⁹

similar to that reported in the non-white population in New York.¹⁰ The ratio of cervix to corpus was 198:1. The age curve was similar to that seen in the United States non-white population, the maximum frequency being in the seventh decade. The incidence rates are given in Table 3.

In the colored community of the Cape in South Africa the incidence of cervical carcinoma approximated that in the U. S. non-white.¹⁴ Oettlé¹⁶ reviewed the available mortality data in the white population which suggested that the frequency was similar to that in the United States white. By interpolation from a histological study he was able to confirm the high frequency of carcinoma of the cervix in the Cape colored and Bantu groups and the low incidence in white. The incidence in the Indian community appeared to fall in an intermediate position.

Histological types: Of the Bantu tumors examined histologically, 3.5 per cent were described as adenocarcinomas in the Johannesburg survey.¹⁴ In a larger series, Oettlé¹⁶ described 7.8 per cent cervical tumors in Bantu patients as adenocarcinomas, a ratio similar to that seen in the Cape colored and white population groups despite their different incidence. Oettlé also drew attention to the observation that when a woman was over 20 years old there did not seem to be any evidence that adenocarcinomas are etiologically distinct tumors, but below the age of 20, adenocarcinomas occurred with relatively greater frequency.

Stage at diagnosis: The percentage of Bantu patients with cervical carcinoma admitted to that hospital in South Africa at stages one and two is low as compared to patients in the United States.¹⁴ For

example, only 18 per cent of cases in the over 55 year age group were in these two stages. Furthermore, the proportion of cancers diagnosed in the early stages are significantly less among rural Bantu patients than in urban Bantu patients. Advanced tumors are also more frequent in older patients. Oettlé found that one in 12 tumors among the white population in Johannesburg was a carcinoma *in situ*, whereas, among the Bantu the ratio was one in 42 tumors.¹⁶ This would support the view that the Bantu female seeks medical attention at a late date. These data are important in indicating that the hospital requirements for treating cases in such a community will be considerably higher than in other areas where the number of cases in an early stage is higher. They also indicate the necessity for instituting adequate educational programs regarding cancer among the indigenous population.

ENDOMETRIAL CARCINOMA

In the Johannesburg survey the incidence of endometrial cancer was very low, only one case being observed as compared to 27.9 expected from a similar U. S. white population (Table 4). Oettlé¹⁶ in a larger histological series found that carcinomas formed only 43 per cent of all malignant body tumors. In contrast in the South African white population, 28 per cent of all malignant tumors of the uterus including cervix, were endometrial carcinomas. This low incidence was not due to failure to perform adequate endometrial biopsies in the Bantu and would appear to be real. In his small series of endometrial cases Oettlé found no significant histological differences from endometrial carcinoma in white subjects. Twelve

TABLE 3
CARCINOMA OF THE CERVIX UTERI
INCIDENCE RATES/100,000 FEMALES IN
MOZAMBIQUE, JOHANNESBURG AND THE
UNITED STATES

Age Group	Johannes- burg Bantu	Mozam- bique*	U. S. White	U. S. Non- White
15-	0.0	4.6	0.3	1.3
20-	2.4		2.2	6.3
25-	7.3	7.2	5.4	22.3
30-	30.9		22.8	55.8
35-	40.9	55.3	35.3	93.0
40-	120.4		58.9	113.0
45-	116.4	51.3	76.8	156.3
50-	151.1		88.1	145.1
55-	155.4	131.9	94.6	167.7
60-	154.5		86.1	188.1
65-	243.5	36.2	77.9	228.7
70-	141.6		79.4	219.1
75+	173.1		74.1	160.1

* Personal Communication from Dr. E. Prates, Lourenco Marques, Mozambique, East Africa.

out of 15 cases observed by him were in the over 50 years age group. The high relative frequency of cervical carcinoma reported in the Bantu is thus largely dependent on the rarity of carcinoma of the corpus uteri.

OVARY

In the Bantu, tumors of the ovary were much less frequent than would be anticipated in a similar population from the United States (Table 4) or Denmark.¹⁴ It is probably significant that this low incidence was associated with a low incidence of corpus uteri cancer since these two have been shown to be associated. Cancer of the ovary in the Cape colored, on the other hand, showed a similar incidence to that in the United States. The small number of cases available for histological examination did not suggest any unusual distribution except for a relatively high proportion of dysgerminomas. This may be dependent on age factors.

CHORIOCARCINOMA

The rate for choriocarcinoma in the urban Bantu was one per 7,440 registered live births.¹⁴ This rate appears somewhat higher than found in European and American practice where such tumors occur in approximately one per 40,000 pregnancies.

SARCOMAS

In an autopsy survey the percentage of fibroids of the uterus in the Bantu was higher than in the U. S.

TABLE 4
INCIDENCE OF CANCER OF THE FEMALE
GENITALIA IN UGANDA AND IN THE
SOUTH AFRICAN BANTU
(INDIRECT STANDARDIZATION)

	Number Observed South African Bantu	Number Expected* U. S. WHITE	U. S. NON- WHITE
Cervix Uteri (171) .	198	119	267
Corpus Uteri (172) .	1	28	26
Choriocarcinoma . . .	5	—	—
Ovary (175)	19	51	41

* Number expected according to U. S. rates⁹ in Johannesburg population.

white and similar to that observed in the U. S. non-white (Table 5). Although exact figures are lacking, there is some suggestion from the Johannesburg survey that there may be a slight increase in the frequency of uterine sarcomas.¹⁶

Characteristics of the South African Bantu

Age of menarche: The mean age of menarche is somewhat older than in Western countries being 14.8 years, approximately one year older than reported in England.¹⁷

Age of menopause: An examination of female patients with cancer showed that the menopause usually occurred between 45 and 49 years of age. If anything, it tended to occur later in patients with cervical carcinoma.

Fertility: The fertility of the Bantu population is high and only three per cent of females over the age of 50 years stated that they had not borne a child. This compares to the reports from West Africa and East Africa where infertility is high apparently due to chronic salpingitis. The number of children borne by patients with cervical cancer, however, did not differ significantly from that in the control series.¹⁴ Childlessness was only reported in one of 174 cervical cancer patients. A review of the age at which cervical cancer patients gave birth to the first child did not suggest that these were significantly different from the general population, but the mean age was considerably lower than in the United States.

Age of first marriage: Cervical cancer patients did not differ significantly from the general Bantu population. Among this population, however, premarital sexual relationships and early marriage are common. A survey in a Johannesburg township indicated that in many instances sexual intercourse commenced soon after puberty. Approximately 47 per cent had con-

TABLE 5
INCIDENCE OF UTERINE MYOMATA*

Age Group	U. S. White Kansas City	U. S. Non-white Kansas City	South African Bantu
15-	0% (49)	0% (28)	6% (33)
25-	0% (9)	33% (3)	15% (52)
35-	0% (16)	25% (4)	35% (65)
45-	38% (16)	40% (5)	48% (29)
55-	21% (19)	14% (7)	23% (35)
65+	17% (48)	21% (14)	32% (22)
All Ages	11% (157)	21% (61)	26% (238)
Per Cent of Uteri With More Than 2 Myomata	29%	46%	44%

* All Myomata 1 cm. or larger on gross examination. The figure in parentheses refers to total number of uteri in group examined.

tracted first union or marriage before they were 20 and 89 per cent before 25 years of age.¹⁴

Circumcision: Among certain Bantu male groups circumcision is still practiced as an initiation ceremony, the rite usually taking place between 14 and 18 years of age. The proportion of cancer patients married to circumcized husbands in the Johannesburg survey was determined in cervical cancer patients and in patients with cancer at the other sites. The proportions were identical.¹⁴ However, among rural patients, the proportions with uncircumcized husbands were somewhat higher. The incidence of penile cancer among males in the Bantu (eight observed) was similar to that in the United States non-white (expected 11.4) and slightly increased as compared to the United States white (expected 3.9). On the other hand no data are available as yet regarding the adequacy of the tribal operation.

Endocrine background: No new information is yet available regarding endocrine metabolism in African females. In Bantu males an increase in total estrogen excretion over 24 hours has been observed compared to South African white males.² Also, increased is the absolute and percentage excretion of estradiol. In male prisoners of both races, however, on an identical basic diet no significant differences were found suggesting that this is essentially a nutritional, and not a racial difference.²⁰ Recently, De Waard (personal communication) has reported similar pattern changes to the Western type in Bantu females living under modern urbanized conditions in Johannesburg, and has suggested that there is evidence of an increased incidence of endometrial carcinoma in the same urbanized group. It may be that further study will indi-

cate that high estrogen excretion is largely a function of diet and not of liver damage as originally suggested. Its relationship to endometrial carcinoma in man remains to be confirmed.

Local lesions: It has been suggested that laceration and chronic inflammation of the cervix may predispose to cervical carcinoma but no satisfactory data permitting comparative studies are available in population groups. Evidence of chronic cervicitis was seen in 24 per cent of a series of 33 autopsies as evidenced by plasma cells and lymphocytic infiltration.

There is widespread clinical impression that hyperplastic endometrial lesions are less common in the Bantu than in white South Africans. Of 4,079 endometrial biopsies in white patients in 1960 performed at the South African Institute for Medical Research, 8.1 per cent were diagnosed as cystic glandular hyperplasia and 2.1 per cent as metropathia hemorrhagica, as compared to 6.2 per cent and 2.3 per cent in Bantu biopsies.²¹ This would not suggest a marked difference between the two racial groups, but further work is clearly required with more carefully controlled material.

Mozambique

Prates¹⁸ has reported on the relative incidence of malignant neoplasms in the Bantu population of Mozambique. The relative frequency of uterine cancer to all neoplasms is high and the ratio of corpus to cervix carcinoma is also increased (1:22). The recent incidence study carried out in that area by this author indicated that the incidence of cervical carcinoma is of the same order as in the U. S. white but distinctly low as compared to Johannesburg Bantu and the U. S. non-white (Table 3). Carcinoma of the corpus uteri and ovary appear infrequent.

Relatively little data have been published as yet regarding the background of the population-at-risk in Mozambique, but in general it is a population which does not use contraceptives and in which there is a considerable degree of sterility.

Uganda

Rate studies are now available from Uganda. Knowelden¹⁵ has reported that the incidence of carcinoma of the cervix uteri is slightly less than in the United States white and much less than in the United States non-white (Table 6), and the South African Bantu. Cancer of the corpus uteri also appears to be infrequent but not to the same degree as in South Africa. It is of interest, however, that in Uganda in contrast to South Africa, one third of the female population is infertile.⁶ As yet, we have no information regarding the age of first marriage, menopause and menarche in this population group. The incidence of ovarian carcinoma is approximately similar to that of the United States population but

TABLE 6
AVERAGE ANNUAL STANDARDIZED
CANCER INCIDENCE RATES
FOR 100,000 FEMALES⁵

	Uganda	U. S. White	U. S. Non-white
Cervix Uteri (171)	16.9	22.0	48.7
Corpus Uteri (172) . . .	1.9	5.7	5.4
Ovary, Tube and Round Ligament (175)	6.0	9.6	7.1

Davies⁵ states that the proportion of developmental and endocrine tumors especially of the granulosa cell type is unusually high.

West Africa

As yet, only relative ratio studies have been published and the available data from the greater part of West Africa have been summarized by Denoix and Schlumberger. While the ratio of cases of cancer of the uterus to other cancers is quite high, there is an impression that the absolute incidence is not as high as in South Africa. Denoix, *et al.*⁷ reported a ratio of 21.6 per cent for cervical cancer to all cancers in females for the years 1940-1955 and a corpus to cervix ratio of 1:11. In Dakar, Camain^{3, 19} reported a ratio of one endometrial carcinoma to five cervical tumors. In Ghana, Edington found 33 per cent of all tumors in females arose in the uterus and cervix but the ratio of corpus to cervix carcinoma was only 1:3.4.¹¹ As these ratios are unusual as compared to other areas of Africa and with our knowledge of age distribution of the population-at-risk, and the relatively large number of cases of ovarian cancer also observed, it would appear probable that the incidence of cervical cancer is low as compared to South Africa and more similar to Uganda and Mozambique. The ratio of endometrial carcinoma to cervix carcinoma as found in different parts of the continent is summarized in Table 7.

OVARY

In Ghana, Edington¹¹ found ten dysgerminomas in 25 histologically proven ovarian malignant tumors. This histological difference may partly, however, reflect the age distribution of the population-at-risk but further data are necessary. Moreover, more recent work indicated that some of the originally diagnosed dysgerminomas are rather manifestations of the African childhood lymphoma or Burkett's Tumor (Davies, personal communication).

SOCIOLOGICAL DATA

Exact demographic data are limited in West Africa regarding the cultural habits of the population-at-risk

but Denoix and Schlumberger⁷ report a mean of three to four living infants per fertile female but point out that 20 per cent of all females are sterile. Birth rates are estimated 40-45 per 1,000 inhabitants, with 60 per 1,000 in some countries. Women are married young and these authors state that all are married or remarried by 20 years of age.

General Conclusions

The major factors of etiological significance in uterine carcinoma have been reviewed recently.^{4, 22} It is clear that within Africa itself wide variations on the incidence of uterine cancer exist which are not entirely compatible with present views on causation.

The high incidence of cancer of the cervix in South Africa conforms in general to what would be expected in a population with the reproductive characteristics given, *i.e.*, high productive rate, early sexual intercourse and marriage, multiple births, promiscuity, etc. These characteristics are, however, prevalent in other parts of Africa and the relatively low incidence of cervical carcinoma in Uganda, Mozambique and also possibly in West Africa (as suggested by Table 7), is more difficult to explain. The influence of high sexual activity and multiple pregnancies at an early age are accepted as etiological factors of significance in cervical cancer,²² but although prevalent in South Africa, their influence is apparently insufficient to cause an incidence equal to that seen in the U. S. non-white.

It is possible that the relatively low frequency reported from Mozambique and Uganda may be indicative of the high proportion of infertile females seen in these countries. The proportion of infertile females in the cervical carcinoma group needs to be established and the exact number of cases that should be observed in the fertile population according to the South African rates also determined. A preliminary calculation would indicate that the rate is still somewhat lower than would be anticipated and that in-

TABLE 7
RELATIVE RATIO OF CORPUS TO CERVIX
CARCINOMA IN AFRICA

	Ratio Corpus:Cervix	Incidence of Carcinoma of Cervix*
South Africa (Bantu) ¹⁴ .	1:198	High incidence
Mozambique ¹⁸ .	1: 22	Not increased
Uganda ⁵	1: 9	Reduced incidence
Ghana ¹¹	1: 3.4	? Low
West Africa ⁷ .	1: 11	? Low
Dakar ¹⁹	1: 5	? Low

* Compared with U. S. white population.

fertility alone is not sufficient to explain all of the low incidence. Moreover, most reports indicate that it is the act of coitus itself that is of more importance in cervical carcinogenesis than childbearing.²² On the other hand, it is possible that in an African community, an infertile woman may be less exposed to coitus than a woman of known fertility but this is pure hypothesis and some workers believe that the opposite may occur.

The role of male circumcision in cervical cancer is still unclear, but in the South African survey there was no evidence that it was a significant factor and this was also true in the New York survey.¹⁰ If lack of penile hygiene and circumcision are factors, a high rate of penile carcinoma should be expected to correlate with the high rate of cervical carcinoma. However, the contrary is the case. The incidence of penile cancer is only slightly increased in South Africa where cervical cancer is common whereas the incidence of penile cancer is high in Uganda and Mozambique where the incidence of cervical cancer is comparatively low. These factors would suggest that penile circumcision is of less significance in cervical carcinogenesis than the sexual habits of the community. On the other hand no data are available on the completeness of circumcision as performed by tribal custom and this clearly requires detailed investigation along the lines suggested by Wynder, *et al.*²³

The almost complete absence of endometrial carcinoma in South Africa is of interest with the additional evidence that this cancer may also be infrequent, but not to the same degree, in other areas of Africa. As yet, no satisfactory hypothesis can be given to account for these findings, but the observation that diet can alter estrogen metabolism and the suggestion by De Waard that endometrial cancer may be increasing in urbanized Johannesburg females is of interest and clearly requires follow up. Fibroid formation has been regarded sometimes as an index of estrogenation. The incidence of fibroids at autopsy in the Bantu is high and similar to that in the U. S. non-white in whom, however, endometrial carcinoma is common. Clearly as yet the two lesions cannot be equated.

The observations on ovarian carcinoma are of interest since the incidence of this cancer tends to fol-

low that of the endometrium. The unusual histological distribution of ovarian tumors with a high proportion of granulosa cell types reported from Uganda and Ghana required further investigation to determine if this is a real difference or only dependent on selection of the population.

The most important conclusion to be drawn from the African area is that there are significant variations in the incidence of endometrial, cervical and ovarian cancer within the continent which are not completely consistent with present hypothesis regarding etiology. Since these variations are dependent on environmental factors the possibility exists that further study may identify the latter and indicate methods for prevention.

References

1. Berman, C.: *South African J. M. Sc.* 1:12, 1935.
2. Bloomberg, B. M., Miller, K., Keeley, K. J. and Higginson, J.: *J. Endocrinol.* 17:182, 1958.
3. Camain, R. and Serafina, X.: *Med. d'Afrique Noire* 8:288-289, 1961.
4. Clemmensen, J.: *J. Nat. Cancer Inst.* 12:1-21, 1951.
5. Davies, J. N. P.: Cancer in Africa, In: *Modern Trends in Pathology*, Collins, D. H. (ed.), London, Butterworths and Co. Ltd., 1959.
6. Davies, J. N. P.: *Proc. Roy. Soc. Med.* 56:532, 1963.
7. Denoix, P. F., Schlumberger, J. R., Laurent, C., and Maujol, L.: *Acta Unio Internat. contra Cancrum* 13:911, 1957.
8. Des Ligneris, M. J. A.: *J.M.A. South Africa*, 25:102, 1927.
9. Dorn, H. F. and Cutler, S. J.: *Pub. Health Monogr.* No. 56, 297 pp., 1958.
10. Dunham, L. J.: *Acta, Unio Internat. contra Cancrum* 17:910, 1961.
11. Edington, G. M.: *Brit. J. Cancer* 10:41, 1956.
12. Elmes, B. G. T. and Baldwin, R. B. T.: *Ann. Trop. Med.* 41:321, 1947.
13. Higginson, J.: *Cancer* 4:1224, 1951.
14. Higginson, J. and Oettlé, A. G.: *J. Nat. Cancer Inst.* 24:589, 1960.
15. Knowelden, J.: *Proc. Roy. Soc. Med.* 56:529, 1963.
16. Oettlé, A. G.: *Acta, Unio Internat. contra Cancrum* 17:915, 1961.
17. Oettlé, A. G. and Higginson, J.: *J. Human Biology* 33:181, 1961.
18. Prates, M. D.: *Brit. J. Cancer* 12:177, 1958.
19. *Rapport sur le Fonctionnement Technique de l'Institut Pasteur de Dakar*, 1959.
20. South African Institute for Medical Research. *Annual Report*, 1959, p. 46.
21. *Ibid.*, pp. 99-100, 1960.
22. Wynder, E. L., Mantel, N. and Lichider, S. D.: *Am. J. Obstet. Gynec.* 79:1026, 1960.
23. Wynder, E. L. and Lichider, S. D.: *Cancer* 13:442, 1960.

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The Incredible Dr. George Morris Gray

ROBERT LELAND SPEER,* *Kansas City, Kansas*

THE PHYSICIAN is often called upon to respond to the needs of his patients and his community, but very few physicians can claim to have responded to these needs in the superior way that Dr. George Morris Gray did. In a humble and dignified manner, he contributed his time and energy to those projects in which he had deep faith. Even in the latter years, before his death at the advanced age of 102 years, Dr. Gray was still interested in the state of his earlier undertakings.

When he was two years old, his father decided to move from Waukegan, Illinois, to Kansas in the year 1858. His family joined the long streams of people going to Kansas to preserve slavery, to destroy slavery, or to acquire more abundant and fertile land. With a strong New England background, his parents became Free Staters and therefore settled in the Free State settlement of Quindaro. His father engaged in fruit farming and established a general store. Here they built a log cabin on a 30 acre farm and a little over one year later moved into a two-story frame house. After a term in the Civil War as a quartermaster, his father returned to Quindaro where he became a township trustee for a number of years, and built his store into a prosperous concern. Young George played with Indian boys, raccoons, and skunks, but this tall, lean boy was also expected to help with the daily chores.

After he had completed his elementary education at Central School (present site of the Wyandotte County Court House), and at Wyandotte County High School (present site of the Carnegie Library), he clerked in the drug store of T. J. Eaton in Kansas City, Missouri. Here he learned to make up shelf

preparations of tinctures, syrups, and elixirs. Dr. Eaton was also a professor of chemistry at Kansas City Medical College, and interested George in becoming a physician. He next got Dr. Schauffler as his preceptor and began his matriculation at the College of Physicians and Surgeons. This school was reorganized before he graduated into the Kansas City

A nostalgic recounting of some of the many interesting facets of the life of one of the stalwarts of early days of the Kansas Medical Society.

Medical College. In the forenoon of five days out of each week he worked at the drug store for \$20 per month to help finance his medical school education. Kansas City, Missouri, was at this time a city of only 40,000 people who were served by two small hospitals. Thus, many of the clinical cases that Dr. Gray observed at this time were in private homes. On March 4, 1879, he was graduated from the Kansas City Medical College. After he had practiced briefly, he decided to locate elsewhere and traveled through eastern Kansas and to Fort Worth, Texas, to look for a new location. He was, however, undecided and returned to Kansas City to ask his parents for permission to enter Bellevue Medical College in New York City. With his parents' consent and financial aid, he went. He roomed with the son of a Wyandotte physician, and often aided his fellow students with his class notes. After specializing in surgery and graduating in 1880, Dr. Gray opened his office in the town of Wyandotte with a population of 15,000. His surgical procedures from this eastern school were

*Mr. Speer is a first year medical student at the University of Kansas School of Medicine.

to make him a novelty in this area of much quackery in medicine.

He took time during this period to marry Carrie Harlan of Kansas City, Missouri. From their union came three children: Mary (married Willard Breidenthal), Ruth (married Thomas Van Cleave, Sr.), and George Harlan (married Ethel Scott). His parents gave them, as a wedding gift, a cottage beside Central School where he had previously gone to school. With his developing surgical skill, he soon acquired a large practice, composed of many people from the surrounding states. Very few country doctors were as equipped or skilled in surgery as he. Physicians at this time rarely operated on a hernia unless it was strangulated, and as a result, many patients died of "inflammation of the bowels." Dr. Gray, in his "Fifty Years in the Practice of Medicine" speech, mentioned that Lord Lister and Dr. Pasteur helped greatly to make such operations safer through better understanding of the causes of disease, and sterility during surgery. Thus, he was able to see, during his lifetime, a large decrease of deaths due to disease. As an innovator himself, he was one of the first physicians in the area to introduce the O'Dwyer tube—a silver tube which was placed in the throat of a patient with diphtheria, and constantly cleaned out. Dr. Gray felt that a physician was closer to the patient in these early years of his practice, and was more disposed to let the patient name the fee that he could afford to pay. He believed the specialist was a boon to society, but he believed that the specialist had a tendency to commercialize, which he found regrettable. He did not want to see the humane principle of medicine pushed to one side, since this would be to the detriment of the profession as a whole. During his 63 years of practice, Dr. Gray devoted one fourth of his time to charity cases and carried out new procedures that he felt would insure better medicine.

Dr. Gray did his first operating in the city jail. One day he was visited by Monsignor Kuhls who was appalled at the prevailing unsanitary conditions, as was Dr. Gray. As a result, he and Dr. Gray established Saint Margaret's Hospital, the first hospital in Kansas City, Kansas. Reverend Kuhls went to Cincinnati, Ohio, where the mother home of the Sisters of the Poor of Saint Francis was located, and convinced a few Sisters to come to Kansas City to run the hospital. The Sisters were committed with the management of the hospital which opened its doors in 1887. Another hospital was not established in the city until 1892. Saint Margaret's was dedicated as ". . . a refuge for the poor who are sick and without funds or friends irrespective of creed, color, or nationality." Here Dr. Gray was to be chief of staff for 55 years. As a teacher of clinical surgery at the University of Kansas School of Medicine, he often

brought his classes to the hospital for demonstrations. In 1936 the staff of the hospital honored Dr. Gray for his work with the hospital. The president of the Kansas Medical Society took this opportunity to congratulate him on his eightieth birthday and to say ". . . that it (Medical Society) believes no organization has a more efficient, conscientious or capable official than yourself. . . ." Dr. Gray lived to see the original physical plant of this hospital torn down and a modern institution constructed in the 1950's.

Dr. Gray was eager to teach medical students the knowledge that he had acquired. His alma mater, Kansas City Medical College, asked him to be a demonstrator of anatomy and teach anatomy. In this position he met Franklin Murphy, Sr., who was to be a life long friend. He helped organize the Medical Chirurgical College. This school and the Kansas City Medical College merged with the medical school of the University of Kansas in 1905. At the University of Kansas School of Medicine he became a professor of clinical surgery. Mr. Bonner states ". . . and at Rosedale students would encounter George Gray, already a surgeon of wide reputation. . . ." In 1924 Dr. Gray was the first person offered the deanship of the medical school. He possibly turned this offer down because he was angry that Governor Davis had fired Dean Sudler in an extremely rude manner. Harry R. Wahl was later appointed to the position. In 1929 he was presented a gold watch by the members of the faculty of the University of Kansas Medical Center. The watch was inscribed "Presented to George M. Gray by the Medical Faculty of the University of Kansas on the Anniversary of his 50 years in the practice of medicine." Mr. Bonner mentions "In addition to Orr and Hertzler the Department of Surgery boasted the indomitable George Gray, still active in the 1930's. . . ." By 1943 the calm, brilliant Dr. Gray had become professor emeritus of clinical surgery at the University of Kansas Medical School. His young spirit and keen interest in medical students made him a favorite teacher of the medical students. Although he never wrote a surgical textbook, his professional methods were quoted in textbooks on surgery. Many invitations to join various societies were bestowed upon Dr. Gray during these teaching years. He became a member of the Western Surgical Association, a member of the Kansas City Southwest Clinical Society, a member of the Kansas City Academy of Medicine of which he was president in 1909 and 1910, and a fellow of the American College of Surgeons. As a favorite alumnus of the medical school of Kansas University, he was elected president of the Alumni Association in 1910.

The Kansas Medical Society was a favorite interest of Dr. Gray and he devoted much time to it. With

his application for membership in 1879 he can easily be classified as one of the earliest members. At the local level, the Wyandotte County Medical Society was organized from the County Medical Society with his aid in 1901. And in 1911 he was elected president of this Wyandotte County Medical Society which consisted of 42 physicians who attended irregularly. The period 1912-1913 was his term of office in the president's chair of the Kansas Medical Society. His presidential address stated that he was grateful to the members for electing him to this important position. In 1922 the Executive Committee appointed him to fill the vacancy left by the former treasurer. Each year he was re-elected to this office, until he resigned in 1945 after 24 years service as treasurer. His last report stated that he hoped that a man from Topeka would be appointed treasurer, since a physician from Topeka would be more easily able to deal with the main headquarters than an out-of-town physician. The treasurer's reports show how well Dr. Gray kept the books before his retirement. In the annual report of 1926 he reports that \$6,000 were in Liberty Bonds and were registered in the name of George M. Gray, treasurer of the Kansas Medical Society, or his successor. The report further mentioned that there were certificates of deposit in the Riverview State Bank in his name, or the name of his successor. During these years as treasurer, Dr. Gray was also asked to head many committees. One such committee was that of Hospital Survey in 1931. His report stated that Kansas was accredited with 102 general hospitals and that 19 hospitals were refused registration by the Council on Medical Education and Hospitals of the American Medical Association. He further reported that on the whole, the hospitals of Kansas met the standards of the American Medical Association.

While he was teaching, practicing medicine, and attending to Society business, he found time to write in abundance for THE JOURNAL OF THE KANSAS MEDICAL SOCIETY. His papers are very analytical and introduce techniques that were new at the time. His papers were: "Medical Treatment of Acute Intestinal Obstructions" (1889); "Complete Inversion of the Uterus" (1894); "Fractures at the Base of the Radius" (1894); "Surgical Treatment of Empyema" (1896); "Purulent Pericarditis" (1903); "The Value of Antiseptics in the Treatment of Infected Wounds" (1903); "Two Cases of Cholecystostomy" (1905); "Ectopic Gestation" two cases (1907); "Radical Cure of Inguinal Hernia" (1910); "Injuries to the Abdominal Viscera, Produced by Indirect Violence" (1911); "Report of Case of Dermoid of the Stomach Wall and Other Recent Pathological Specimens" six cases, written with Dr. C. C. Nesselrode (1911); "Acute Pancreatitis and Sub-Acute Pan-

creatitis" (1912); "The Treatment of Cancer of the Cervix" (1912); "Nephro-Coloptosis" five cases (1913); "Perforating Ulcers, Gastric and Duodenal in the Vicinity of the Pylorus" (1914); "The Surgical Treatment of Gastric and Duodenal Ulcers" (1914); "The Surgical Treatment of Intestinal Stasis Due to Cecum Mobile and Coloptosis" (1915); "Cholecystectomy vs. Cholecystostomy" (1917); "Discussion of Complicated Bilateral Inguinal Hernias" (1926); and "Jaundice, Painless, Thoracic Empyema" (1926). Even the layman must be impressed with this abundance of medical papers. Many seminars were presumably given at the medical school that were never published.

While Dr. Gray was president of the Kansas Medical Society in 1912, he became involved in state politics. In that year Dr. J. W. May, editor of THE JOURNAL OF THE KANSAS STATE MEDICAL SOCIETY, requested Dr. Gray's views on the desirability of the two candidates for governor. As a result, Dr. Gray wrote an open letter to the editor. He stated that although Arthur Capper had the ability to help public health and Kansas physicians through his large daily newspapers, he had not done so. Instead Mr. Capper had insulted every regular and honest physician in the state by publishing, for a price, advertisements of fake remedies and preventatives, *i.e.*, patent medicine. Dr. Gray further stated that it was a farce that such a person would be put up for office. He then ridiculed Capper for mentioning that he did not think a progressive like Mr. Hodges should be elected to office. Dr. Gray ridiculed him by stating that Capper did not like progressives since Theodore Roosevelt, "the greatest progressive and real leader," did not sanction the Capper methods in journalism or politics. In conclusion, Dr. Gray, due to Capper's insults of the past, was going to vote for Mr. Hodges even though of a different political faith. His last sentence was "I just have not the faith in Mr. Capper." That fall Mr. Hodges was elected Democratic Governor of Kansas by 29 votes. In January, 1913, Dr. Gray wrote another letter to THE JOURNAL OF THE KANSAS MEDICAL SOCIETY which was entitled the "Present State Board of Health in Kansas." He wrote in opposition to a bill by Representative Frey of Junction City before the State House of Representatives. This bill would have replaced the four physicians on the board with four businessmen. Dr. Gray contended that the four physicians had done a good job and that the businessmen would twist the Pure Food and Drug Act for their private benefit. He believed that this would lead to a calamity for the state. In response to charges of graft by the physicians on the board, he pointed to the excellent record of Dr. S. J. Crumbine who was secretary of the Board of Health. The passing of the Chiropractors Bill in

this same year made Dr. Gray very distressed. This bill would allow the chiropractor to be registered and to practice alongside the regular physician. He said that every physician who attended medical school for six years must feel hurt and angered by the passage of this bill. Now the chiropractor, with a quickly bought diploma, would be equal to a regular physician. "I, myself, feel that this act is a direct insult to every honest physician in the state." He chastised Governor Hodges and his legislature for their part in this bill against a class which had done so much for the people. Dr. Gray felt that chiropractors and every other dishonest quack would now come to Kansas, buy a diploma, and register under the Chiropractors Act. In conclusion, he apologized to the physicians of the state for his part in the election of Governor Hodges and said "(I) can only say, I made a mistake." In time, old wounds were healed and in 1915 Governor Capper appointed him a member of the State Board of Medical Registration and Examination for Kansas of which he became president in 1918. From December 10, 1917, to January 4, 1919, Governor Capper appointed him medical military aide to the Governor. Thus he became a member of the United States Medical Corps, and was in charge of procuring physicians for the government. It was his duty to see that Kansas physicians helped fill military positions, but he was also to insure that each Kansas town and city was not deprived of an adequate number of physicians. This could be called an orderly recruitment of physicians.

Dr. Gray was also concerned with politics at the local level. For a two year term he was the county coroner in the 1890's. His most important local office came in 1906 as mayor of Kansas City, Kansas. He completed four months of W. W. Rose's term of office as the result of a citizens' movement using slogans such as "A dollar's worth of service for every dollar expended." During his term of office, he had as his private secretary Judge J. P. Angle who received all of Dr. Gray's salary for his services. He would not run for re-election for he considered himself only a stop-gap mayor. The major legislation carried out by him during this period dealt with a park and boulevard system. When he was a boy in Quindaro, he had helped his father take care of a park of 40 acres which had been laid out within the city limits in 1856 by the founding fathers of Quindaro. This first park in Kansas was probably a factor in his decision to make Kansas City, Kansas, a city of parks. In March of 1907 the Kansas Legislature passed a law giving Kansas City the authority to organize a park board, and to levy special taxes for a park and boulevard system. Later this law was tested in the Kansas Supreme Court and declared constitutional. He was mayor when this law went into effect, and

had the power to appoint the park board. His influence was apparent everywhere—in the organization of the board, and in constructive planning. After his term of office, he was appointed to the park board. He and the board secured the services of George E. Kessler who was the most eminent landscape engineer in the country. One of Dr. Gray's most notable projects was the lining of several boulevards with maple trees which were to be a source of joy to the city. The park board was later supplanted by the park commissioner.

In a speech of welcome to the Kansas Medical Society in Kansas City, he mentioned that he had just filled out a term as mayor and was extremely proud of the 70 miles of paved streets in this modern city. He, however, apologized that there were no decent hotels, but assured the audience that a beautiful fire-proof hotel called the Grand Hotel would soon be completed which would be the finest in the Midwest. The *Kansas City Star* in 1951 compared his efforts to get better parks and boulevards with those of William Rockhill Nelson.

This was not the last of his local offices for he was elected president of the Mercantile Club from 1907-1908, which was a group of merchants and professional men who promoted business in the city. When this later became the Chamber of Commerce, he became its president in 1921. He was a very influential backer of the commission form of government for Kansas City and pointed to the bribes that councilors often took to benefit certain areas. He held the firm belief that a commissioner who was non-political and elected at large would be a much better bargain for the people.

One of his greatest contributions to the city was his fight for a municipally owned water and electrical system. In 1905 he worked with Dr. E. J. Lutz, to get a better water system, and to put it under municipal ownership. During the period between 1880-1907 the water system was deplorable and was, undoubtedly, a cause of much sickness and death due to typhoid fever. When the water company at this time applied for a new charter promising "Pure potable water," he went, at his own expense, to the Health Department of Chicago and found that this type of water meant 98 per cent elimination of all bacteria as measured and determined by laboratory examination at the intake and faucet. He got permission to insert a clause into the contract that the water company must do the above or forfeit \$100 per day to be deducted from their bill against the city. This amended franchise passed, but the water company refused to accept it. Later, in his term as mayor, the water company again renewed its efforts to obtain the franchise, and were willing to accept the clause defining "Pure potable water." However, the

public now demanded a municipal ownership. Since there was no state law to allow the city to take over the water system, they applied to the Kansas legislature, through the Mercantile Club and other interested citizens groups, for municipal ownership. A municipally owned electrical system followed the municipally owned water system. After he was drafted by a citizens' movement for a municipal electrical plant in 1929, he launched the movement responsible for the establishment of the Board of Public Utilities. Willard Breidenthal and he applied for special legislation to allow the city to buy the collectively owned electrical plant. The resulting act established a five-man, non-political board to operate the plant. Dr. Gray was elected chairman of the Citizen's Advisory Committee to the Board of Public Utilities, and was its head until his death in 1958. He was consulted in every major move in the tremendous growth of the two utilities.

Banking was another interest of Dr. Gray, and he was closely connected with the financial pulse of his community. His first introduction to the banking world was at the Peoples National Bank on the corner of Seventh and Minnesota Avenue. He was elected vice-president of this bank. The Riverview State Bank was an early bank established through the efforts of Dr. Gray and others. He eventually became president of this bank. The Security State Bank was also under the presidency of Dr. Gray for a period. The Security State Bank and the Peoples National Bank merged on October 10, 1933, to form the Security National Bank which was located on the site of the Peoples National Bank. In 1925 Victory State Bank was chartered and Dr. Gray was its president until 1953 when his son, George Harlan, became the president. Dr. Gray saw the transference of this bank to three different sites. Dr. Gray was a director of these three banks at the time of his death.

Only a fall from a rock wall at his home could slow the amazing pace that he had lived. He was watering his flowers in 1943, when he fell, fractured a right hip, fractured a wrist, and broke several ribs. At this time, his son persuaded him to close his office after 63 years of medical service. Some of his older patients would come to visit him after he had recovered at his home. When they complained of illness, he would send them to competent physicians in the city. Probably, many were cured of their illness in just talking to him about the "old" days. In the early 1950's he again fractured the same wrist, but in spite of these breakages, he maintained a remarkable alertness to his environment. Gardening was a past-time that he could enjoy a little more now, and he also enjoyed making occasional visits to the banks that he had helped build.

His philosophy of life did not change with ad-

vanced age. He still believed that the real wealth a physician acquired was the esteem in which he was held by his fellow man, and by his medical colleagues. Charity, in the form of free treatment to the absolutely needy and destitute, was the greatest part of medicine. He felt that the middle class were the people to be most admired because of their great courage. As a physician, he appreciated just what this man had to cope with, and tried to help him by charging what he was able to pay at the time. With age, he believed that friends were the most valued asset of all earthly possessions. He did, however, interject that friends are usually made early in life and acquaintances later in life. When asked about old age, he responded once, "It's something like a man riding in a motor car, about out of gas and no filling station ahead."

A *Kansas City Star* reporter in 1956 described this man of advanced age as a slender, blue-eyed man of white hair, close cropped mustache, and a healthy pink-white skin. On August 12, 1958, this man of 102 years died in the hospital that he had helped to establish. The incredible Dr. George Morris Gray, Dean of Kansas City physicians, had not quite reached the next filling station.

EDITOR'S NOTE: References may be obtained by writing the JOURNAL, 315 West 4th Street, Topeka, Kansas 66603.

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These Were the Giants—

Thirteen Distinguished Men of the University of Kansas School of Medicine

PHOEBE PECK,* *Kansas City, Kansas*

THE FOUNDING FATHERS of the University of Kansas School of Medicine could perhaps be counted one by one, and in this count would be at least some individuals (for our purpose here a baker's dozen) who have been widely acknowledged as outstanding men. These men started their careers at Kansas; many of them served the school all of their professional career. They have left their impress on medicine.

Marshall A. Barber

When the illustrious Robert Koch visited the United States in 1907, he told his friend William H. Welch that the most interesting things he had seen on his trip were the small organisms a young fellow named Ricketts had found in Rocky Mountain spotted fever and the apparatus Professor Barber had devised that made it possible to isolate single bacterium. Marshall Albert Barber (1868-1953) began in 1895 his career at Kansas and was professor of bacteriology and pathology from 1906 to 1911. Later he joined the International Health Division of the Rockefeller Foundation and became one of the best known malarialogists of his time. He later (in 1946) wrote a fascinating autobiography, *A Malarialogist in Many Lands*.

With his apparatus (*Figure 1*), devised while a professor at Kansas, Barber could isolate a single organism, drop it into a test tube of broth and obtain a pure culture. He isolated new strains of microorganisms and proved that a single anthrax bacillus could cause a fatal infection in an animal.

John F. Binnie

When the clinical years of the medical school were established in Rosedale in 1906, John Fairbairn Binnie (1863-1936), a graduate of the University of Aberdeen, became the first professor of surgery. His handbook, *Manual of Operative Surgery*, was the standard text in the medical schools throughout the country. A reviewer said of the first edition, which appeared in 1904: "The author is to be congratulated on having been able to condense so much valuable information within so few pages. . . . The descrip-

Presented here are 13 men whose names have become known throughout the country and the world. We must say again that there have been more distinguished men connected with the University of Kansas School of Medicine. Their importance and brilliant work could be the subject of another article. However, these thirteen achieved great and lasting fame and put, as it were, the school on the map. To paraphrase a quotation from the eminent surgeon of the fourteenth century, Guy de Chauliac—we are only children on the necks of these giants.

tions of operative procedures are short and clear." In terms of these clear, concise descriptions and its immense popularity, the book has been compared with Osler's *Principles and Practice of Medicine*.

Binnie was a man of culture, well educated and widely travelled, on terms of friendship with the great surgeons of the world. He was an excellent teacher, a witty and interesting companion, well known for his pithy observations and salty sayings.

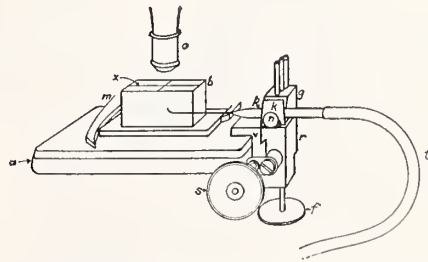


Figure 1. Barber's apparatus for the isolation of bacteria. A pipette with an extremely fine point is introduced by set screws (s and f) into a hanging drop in x. At the moment it encounters the desired microorganism, this is drawn into the pipette by capillary attraction. Later it is discharged at the desired spot by blowing into the tube (t). The procedure is carried out under the microscope (o). From *Kans. Univ. Sc. Bull.*, IV:43, 1907.

* Department of History of Medicine, University of Kansas School of Medicine.

Logan Clendening

Logan Clendening (1884-1945), the only medical graduate of Kansas in this group, was first appointed instructor in medicine in 1910 and became professor of clinical medicine and of the history of medicine in 1928. He was one of the most colorful figures on the teaching staff, and it has truthfully been said that no one ever fell asleep in his class. His main activity was teaching physical diagnosis and therapeutics to the students. Indeed, these students still talk about his demonstrations of amphoric breathing, gastric lavage, and abdominal paracentesis. His first medical work, *Modern Methods of Treatment*, appearing in 1924, is filled with medical history, amusing anecdotes, and sound, common sense. His book, *The Human Body* (Figure 2), appearing in 1927, proved an instantaneous success, and more than half a million copies have been sold, with editions in Portuguese, Italian and Spanish and in paper back form. One critic described the book as "the most honest, brilliant volume of the present century"; and another as "beyond question the most interesting book of its kind ever published in America." Clendening wrote a column on health advice, and, at the time of his death, this was featured in daily newspapers having a total circulation of 25 million.

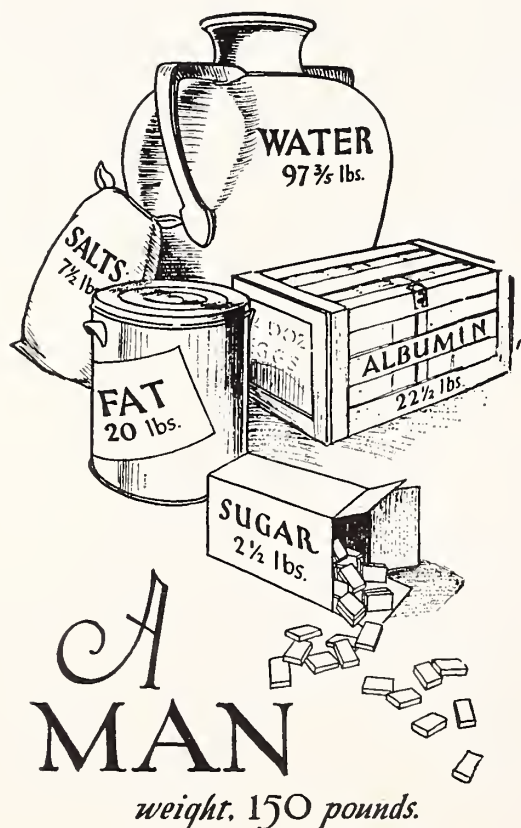
Clendening also lectured on medical history, and here again his colorful presentations are still remem-

bered. He was interested in the history of medicine all of his professional life and collected a noteworthy library of medical classics. The Clendening Medical Library was named in his honor when the new building was dedicated in 1957. His books formed the nucleus of the History of Medicine collection—one of the finest in the country.

George E. Coghill

In 1913, George Ellett Coghill (1872-1941) accepted an associate professorship in anatomy at the University of Kansas and three years later became professor. From 1918 to 1925, he was head of the department and, during the last seven years, was secretary of the medical faculty. His research papers contained factual data upon which he based his conclusions regarding the relations of local reflexes to integrated movement in amphibian embryos. He extended these observations to higher levels of the brain and to later stages of mammalian development.

Coghill was more interested in research than in teaching, and, in 1926, he received a permanent appointment at the Wistar Institute, Philadelphia. In 1928, he delivered three lectures on the "Anatomy and the Problem of Behaviour" at the University College, London, which lectures were highly praised; and, as guest of the Royal College of Physicians, he



THE HUMAN BODY

By

LOGAN CLENDENING, M.D.

Illustrations by

C. SHEPARD AND DALE BERONIUS

AND FROM PHOTOGRAPHS

Fold your flapping wings,
Soaring legislature!
Stoop to little things—
Stoop to human nature!
Iolanthe.



New York & London

ALFRED A. KNOPF

1927

Figure 2. Clendening's book, *The Human Body*. Frontispiece and title page of the first edition.

attended the Harvey Tercentenary and was royally entertained.

Samuel J. Crumbine

Samuel J. Crumbine (1862-1954) was appointed dean of the school of medicine in 1911 after the resignation of George H. Hoxie. Crumbine had formerly practiced in Spearville and Dodge City, Kansas; he called his autobiography, written in 1948, *The Frontier Doctor*. In 1899, he was appointed a member of the State Board of Health and in 1904 became its secretary and executive officer. At the time of his appointment as dean, he was nationally known through his crusades against tuberculosis; against all filth in general—"Swat the Fly" and "Kill the Rat" were his own phrases; and against the common drinking cup and the roller towel. By his efforts the common cup in Kansas public places was banned on September 1, 1909; the common towel June 12, 1911—"Like its predecessor, the order banning the common drinking cup, this regulation was the first of its kind ever officially promulgated."

Unfortunately Crumbine became unpopular when he enforced the pure food laws, and he was the center of many controversies. In 1923, he left Kansas and went to New York, where he achieved international fame as secretary and general executive of the American Child Health Association. He was sent by President Hoover to study the health of children in Puerto Rico. He was also a voluntary child health consultant and a member of Save the Children Federation.

William W. Duke

William Waddell Duke (1882-1946) was a man of great originality and versatility. While still a medical student, he proved that the beating heart absorbed glucose from a perfusate passing through the coronary vessels and that the content of calcium and potassium in the perfusate had a marked effect on the heart beat. While an intern, he demonstrated that the hemorrhagic condition produced by benzol was due to destruction of the blood platelets.

After entering practice in Kansas City, Duke became professor of experimental medicine at the University of Kansas, a year after his appointment on the staff in 1913. During his early years here, he devised the test for bleeding time (*Figure 3*), now universally employed. He was a pioneer in blood transfusion, and later he turned to the study of endocrinology and allergy, on both of which he left a deep impress. He first described physical allergy.

Russell L. Haden

Russell Landram Haden (1888-1952), who came in 1921 with Dr. Ralph H. Major from Henry Ford Hospital, began here his researches on the blood,

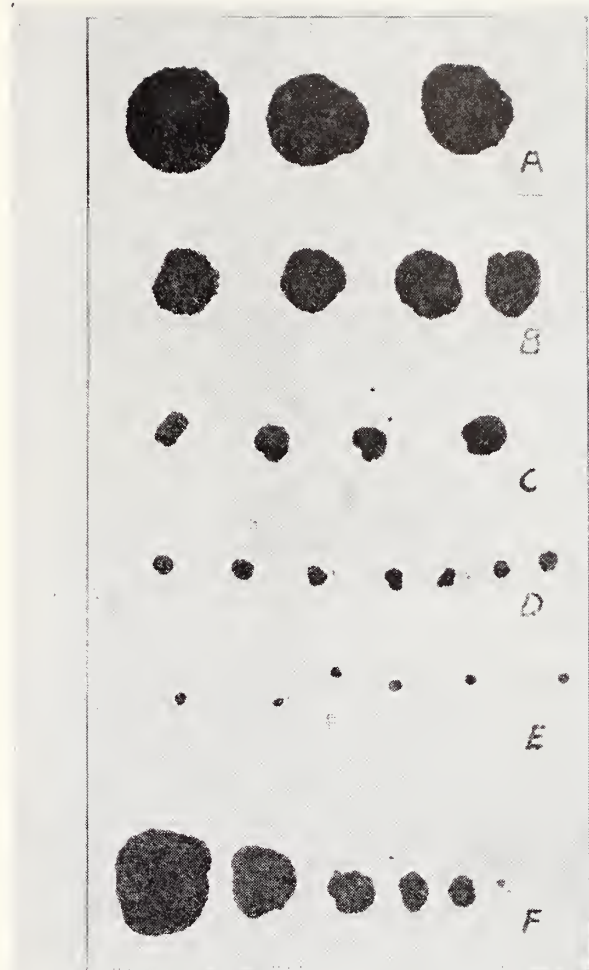


Fig. 3.—Great delay in bleeding time. From Case 1. Platelet count 3,000, coagulation time normal. The blois in Series A were taken immediately after the ear was pricked; Series B, 20 minutes; C, 40 minutes; D, 60 minutes; and E, 80 minutes later. The bleeding time at this time was 90 minutes. Series F, showing a normal bleeding time, was taken after the transfusion. Platelet count was then 110,000.

Figure 3. Illustration of Duke's test for bleeding time. Note that bleeding time may be markedly abnormal when the coagulation time is quite normal. From *J.A.M.A.*, LV:1188, 1910.

which later made him a nationally known hematologist. He pointed out the importance of the size of the red blood cell in the diagnosis of anemias and developed the concept of the volume index, quite as important as the color index. As chief of the clinical laboratory, he also carried out important investigations on focal infection and later collaborated with Dr. Orr in studies on the importance of maintaining an adequate sodium chloride blood level in health and in disease, emphasizing especially the importance of saline transfusions in intestinal obstruction. From here, Haden went to the Cleveland Clinic in 1930 and, at the time of his death, was director of the national blood bank program.

Arthur E. Hertzler

Arthur Emanuel Hertzler (1870-1946) became a member of the surgical department in 1905 and at-

tained the rank of full professor in 1919. He lectured on surgical pathology. He was endowed with a forceful personality, and it has been written about him that he loved his students, he loved to teach, and especially he loved to train men in his clinic at Halsted, Kansas.

Hertzler's autobiographical sketch, *The Horse and Buggy Doctor*, was published in 1938, and, within a year, 200,000 copies had been sold. Translations have been made in many languages, and there have been an edition in Braille and a talk-book form. He was a prolific writer. His *A Treatise on Tumors* (1912) was widely praised; and his *Surgical Operation with Local Anesthesia* (1912) was a noted monograph on local anesthesia. His *Diseases of the Thyroid Gland* (1941), covering the span of more than forty years' experience, and his ten monographs on surgical pathology (1930-1938) were important contributions.

Thomas G. Orr

To Thomas Grover Orr (1884-1955), surgery was a mission, the first challenge of which was to heal. For over 25 years, he was chairman of the department of surgery, having been appointed first in 1915 instructor in bacteriology and then assistant professor of surgery, chief of the dispensary, and pathologist to Bell Memorial Hospital. As an investigator, teacher and author, he made many important contributions to surgery. His textbook, *Operations of General Surgery*, first edition in 1944, took the place of Binnie's "Handbook." It appeared in two editions before the author's death and was translated into Spanish and Portuguese.

Earl C. Padgett

Earl Calvin Padgett (1893-1946) joined the surgical staff of the University of Kansas Medical Center in 1927, becoming professor in 1941. The original dermatome carries the name of Padgett-Hood, for Padgett conceived the idea of such an instrument, which he developed and designed with the technical aid of George J. Hood, professor of engineering drawing on the Lawrence campus. The story is often told how Padgett, after spilling some latex rubber cement on his arm, leaned against the wall and found his skin stuck tightly to the wall. By serendipity, the problem of the method of attaching the skin to a surface was solved.

On January 11, 1938, at the University of Kansas Hospital, the first successful dermatome skin graft was cut, with Dr. Padgett officiating. It has been stated that this instrument "revolutionized the technique of skin grafting and broadened its indication." The machine used that first time is now on exhibit in the History of Medicine Museum here (Figure 4).

Padgett's book on *Skin Grafting* (1942) was widely used. His book, *Plastic and Reconstructive Surgery* (1948—issued posthumously), remained long a standard text and gave its author an international reputation.

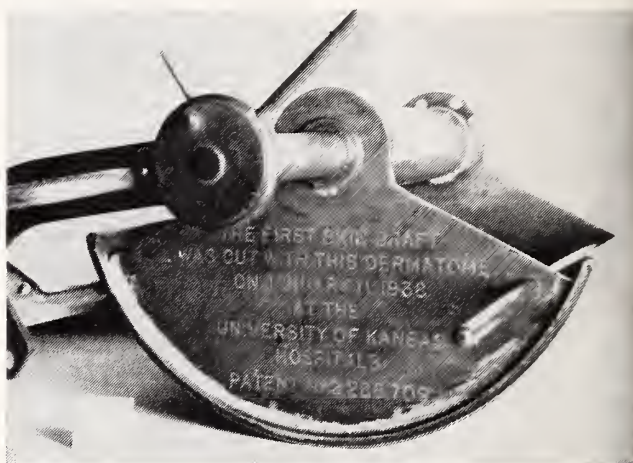


Figure 4. Padgett-Hood dermatome. The original model in the History of Medicine Museum, K.U.M.C.

Richard L. Sutton

Richard Lightburn Sutton (1878-1952) was appointed associate professor of dermatology in 1911 and in 1916 became full professor. The same year, his book, *Diseases of the Skin*, was published. This book has been used in many medical schools not only in America but also abroad, especially in England. A reviewer noted that this treatise, while showing the author's independence of view, was along conservative lines; and he went on to say, "The book represents the best modern views of dermatology, and is a credit to the author and to American dermatology."

Sutton led a strenuous life, both in his profession and in his relaxation. A true doctor afiel, he was here noted as a writer and poet, big game hunter, fisherman, and gun collector. His excursions resulted in such books as *An Arctic Safari*, *Around the World with Camera and Rifle*, *An African Holiday*.

Walter S. Sutton

Walter Stanborough Sutton (1877-1916)—no relation to Richard L.—was appointed assistant professor of surgery in 1909. His death at the age of 39 cut short a most promising career. His fame lies in his chromosome theory of inheritance (Figure 5), which predicted the essential features of genetic linkage—the Sutton-Boveri hypothesis. Moreover, he deserves to be remembered for his introduction of colonic administration of ether anesthesia in surgery of the head and neck and for his method of localizing a

FIG. 6.



FIG. 6. Partly condensed spiremes in middle prophase of primary spermatocyte. All the chromosomes, including the accessory (*x*), show indications of a longitudinal split.

FIG. 7.



FIG. 7. Slightly more advanced chromosome group than that of Fig. 6. Letters *a*, *b*, *c*, *d*, *e*, *f*, *g*, *h*, *i*, *j* and *k* designate the different chromosomes in order of size from largest to smallest; *x* designates the accessory.

Figure 5. Illustration of Sutton's theory of inheritance. From *Biol. Bull.*, IV:29, 1902.

bullet or other foreign body in a wound by ascertaining the length of the missile and taking x-rays at certain angles—the Sutton method. To the seventh edition of Binnie's "Handbook," Sutton contributed a chapter on war surgery. His articles, "On the Morphology of the Chromosome Group in *Brachystola Magna*" (1902) and "Chromosomes in Heredity" (1903), are major landmarks in biological literature.

Harry R. Wahl

On the recommendation of Dr. Major, who was leaving pathology to go to Detroit, Dean Sudler, in 1919, appointed Harry Roswell Wahl (1886-1956) as chairman of pathology. In 1924, he became acting dean of the medical school and dean from 1927 to 1948. Although he was a skillful and untiring pathologist, he was heard to say (not as an excuse but as the bare fact) that his duties as dean of the school, professor of pathology, pathologist to and administrator of the hospital left him little time for original writing. Yet, he did do outstanding work on tumors of the nervous system, fat metabolism in atherosclerosis, Hodgkin's disease, and leukemia of the stomach.

The medical sciences building was named Wahl Hall in his honor shortly before he died. As Chancellor Murphy related, "The story of its [the medical center's] growth to a mature leader among America's medical institutions is interwoven with the life of Harry Roswell Wahl."

Acknowledgment

I wish to thank for his kind assistance Dr. Ralph H. Major, professor emeritus of medicine and of the history of medicine—one of the great men of the University of Kansas Medical Center. Dr. Major not only suggested the topic and the names of the professors but also gave generously of his time and knowledge.

MARK YOUR CALENDAR

106th Annual Session

of the

KANSAS MEDICAL SOCIETY

May 10-13, 1965

Hutchinson, Kansas

Plan to Attend

The President's Message

DEAR DOCTOR:

You have seen notices in the newspaper that the AMA introduced the Eldercare program at their meeting in Chicago last month. I thought perhaps you would be interested in comparing the AMA plan with the King-Anderson bill sponsored by the Administration.

As you know, the King-Anderson bill pays certain hospital benefits and some days in nursing homes connected with hospitals to anyone over 65 years old who is receiving social security. This is to be paid by increasing the social security tax of the working people and also the amount paid by the employers so that the entire cost of the program rests on the working people. It does not pay any of the physicians' or druggists' bills.

On the other hand, the Eldercare program as sponsored by AMA, and endorsed by the Kansas Medical Society, pays for care by a physician while the person is in the hospital, hospital bills, and drugs. The entire premium would be paid for those people who have incomes less than an amount to be established by each state. Those having incomes above the minimum but below the maximum established by the state would pay a per cent of the premium over the minimum paid by the state. This is a regular health and accident insurance policy to be sponsored by all insurance companies, including the Blue Shield Plan, and will be available to anyone over 65 years of age.



Sincerely

John C Mitchell, Jr

President



AMA House of Delegates

Meeting in a two-day special session in Chicago on February 7 to review current health care legislation, the House of Delegates of the American Medical Association gave unanimous approval and support to the AMA Eldercare Program and to the Herlong-Curtis Eldercare bill (H.R. 3727), which embodies the basic principles of the AMA program.

In acting upon six resolutions and reports from the AMA Board of Trustees, Council on Legislative Activities and Council on Medical Service, the House of Delegates also:

1. Reaffirmed its opposition to the King-Anderson bill (H.R. 1 and S. 1) and all similar measures;
2. Commended the Board of Trustees and its Task Force for implementing and funding a program of public education on the AMA Eldercare Program and gave them a standing vote of confidence;
3. Called for study of the "desirability and feasibility of extending the principle of federal and state aid under the Kerr-Mills principle to persons below the age of 65 who need help";
4. Adopted a statement on Standards for Health Care Programs, and
5. Urged that the professional services of pathologists, radiologists, physiatrists and anesthesiologists should be excluded from the provisions of any bill which excludes other physicians' services.

First announced on January 9 by AMA President Donovan F. Ward, at the Association's Kerr-Mills Conference in Chicago, the AMA Eldercare Program would encourage the use of voluntary health insurance or prepayment plans in the implementation of Kerr-Mills programs, permit the state to have a health-oriented agency supervise or administer the program, provide for use of an income information statement as the sole eligibility test of need, and provide for a wide spectrum of medical, surgical and hospital benefits with sliding-scale eligibility so that a citizen 65 and over would pay all, part or none of

the cost of the insurance or prepayment policy, depending on his income.

These principles are incorporated in the Eldercare Act of 1965, introduced on January 27 by Representatives A. Sydney Herlong, Jr. (D., Fla.) and Thomas B. Curtis (R., Mo.), amending the Kerr-Mills law to authorize broad health insurance coverage for elderly persons.

The Herlong-Curtis bill would authorize federal grants to the states on a matching basis to help persons 65 years of age and older pay the costs of the health insurance or prepayment policy if they could not afford it otherwise. The bill would provide for utilization of Blue Shield and Blue Cross plans and private health insurance companies.

The cost of such coverage would be borne entirely by government for those elderly individuals whose income falls below limits set by each state. For individuals with incomes between the minimum and a maximum, government would pay a part of the cost on a sliding scale according to income. Individuals with income above the maximum would pay the entire cost, but they would have the benefits of an income tax deduction for such payments.

Persons under 65 years of age also would be given an income tax deduction for the amount of premiums paid on health insurance policies for elderly relatives.

The House adopted the following principles as essential to sound health care programs:

1. No person needing health care shall be denied such care because of inability to pay for it.
2. It is appropriate that government revenues be used to finance health care when other resources have been found to be inadequate.
3. Every level of government (municipal, county, state and federal) should assume a responsible share in the financing of such programs.
4. The health care provided by such programs

should be adequate and should be equal in quality to that available to those who can afford to pay.

5. Maximum use should be made of voluntary prepayment and insurance mechanisms.

6. Administration of such a program should be the responsibility of the state government. Participating states should be required to meet adequate standards of administration in order to qualify for federal funds.

7. Eligibility requirements for benefits should be fair, realistic, uncomplicated and practical.

8. Any such health care program should provide funds only, and not direct services.

9. Funds for such programs should come from general tax revenues and not from Social Security taxes.

Among others, the House adopted this resolution.

WHEREAS, The Board of Trustees of the American Medical Association, and its Task Force on current legislation, is moving with courage, wisdom and dispatch in developing a positive and aggressive public position on legislative proposals presented to the 89th Session of the United States Congress; and

WHEREAS, The very favorable public and legislative response to implementing legislation proposed in California clearly indicates the possibility and desirability of similar action in all the states; and

WHEREAS, The initial public response to the AMA position has been very favorable, but the multiplicity of proposals on medical care and the consensus of opinion in the 89th Congress cannot yet be clearly defined or evaluated; and

WHEREAS, It is essential that the position of the AMA be made clearly apparent while at the same time remaining responsive, and flexible in legislative developments; therefore be it

Resolved, That this House of Delegates reaffirm earlier positions established by the AMA House of Delegates on federal medical care programs, including Resolution 20 of the 1964 Miami Beach meeting, which urged component associations to stimulate state and local government to seek the fullest possible implementation of existing mechanisms, including the voluntary health insurance principles, to the end that everyone in need, regardless of age, is assured that necessary health care is available; and be it further

Resolved, That this House of Delegates enthusiastically support the program of the AMA as announced by President Donovan Ward on January 9 and as implemented in H.R. 3727 (introduced by Representatives Herlong and Curtis in the 89th Congress); and be it further

Resolved, That this House of Delegates reaffirm its opposition to the principles embodied in S. 1 (Anderson) and H.R. 1 (King) which require a direct earmarked payroll tax to support a direct federal medical service program for all persons over 65 years of age, regardless of their need for help; and be it further

Resolved, That this House of Delegates reaffirm its

confidence in the AMA Board of Trustees, and in its Task Force on current legislative problems, and does hereby empower the Board of Trustees (a) to support any legislative position the Board finds desirable and in consonance with existing AMA policy and (b) to develop a vigorous campaign of public education in support and implementation of this positive legislative position; and be it further

Resolved, That the AMA Board of Trustees, the Council on Medical Service and the Council on Legislative Activities (a) study the desirability and feasibility of extending the principle of federal and state aid under the Kerr-Mills principle to persons below the age of 65 who need help and (b) report their recommendations as early as possible to the AMA Board of Trustees and House of Delegates as a basis for formulation of future AMA policy in this regard.

Respectfully submitted
C. W. MILLER, M.D.
L. R. PYLE, M.D.
Delegates from Kansas

NOMINATING COMMITTEE

The Nominating Committee met in Topeka on Sunday, January 17, 1965, and submits the following names as candidates for the elective offices of the Kansas Medical Society:

President

George E. Burket, Jr., M.D., Kingman. Born in 1912. Graduated from the University of Kansas School of Medicine in 1937. Has held various offices and was chairman of Society committees.

President-Elect

James A. McClure, M.D., Topeka. Born in 1918. Graduated from University of Kansas School of Medicine in 1944. Has served as councilor and chairman of Society committees.

First Vice President

George F. Gsell, M.D., Wichita. Born in 1907. Graduated from Rush Medical College in 1933. Has served as councilor and AMA Delegate.

Second Vice President

Ralph G. Ball, M.D., Manhattan. Born in 1903. Graduated from University of Kansas Medical School in 1927. Is currently serving as councilor.

Glenn E. Kassebaum, M.D., El Dorado. Born in 1898. Graduated from Northwestern University School of Medicine in 1923. Has served as committee chairman.

J. Warren Manley, M.D., Kansas City. Born in 1907. Graduated from University of Kansas School

(Continued on page 160)



Nationwide Results of "Blue Shield Test of Performance" Announced

Nationwide data have been released from Blue Shield's "Test of Performance," a survey of the adequacy of Blue Shield coverage relative to physician charges. Kansas Blue Shield and many of its participating physicians cooperated in this survey. Although Kansas statistics are not yet available, the national data may be of interest to many physicians. Here is the information now available through a news release from the National Association of Blue Shield Plans.

"Blue Shield pays 89 per cent of the cost of doctors' services for subscribers enrolled in its best group certificate, according to a survey recently completed by the National Association of Blue Shield Plans, Chicago, Illinois, coordinator of Blue Shield Plans in the United States, Canada, Puerto Rico, and Jamaica.

"The Test of Performance Survey, the largest single study in the history of medical economics, showed Blue Shield's best group certificate, held by one out of four members, pays 90 per cent of medical care costs, 89 per cent of surgical costs, and 88 per cent of anesthesia costs.

"Blue Shield, according to the survey, pays 82 per cent of members' costs in its most widely held group certificate, which accounted for 40 per cent of the cases surveyed. For all claims analyzed in the study, including all levels of individual and group contracts, Blue Shield pays 77 per cent of physicians' charges.

"The survey was taken to determine how well Blue Shield Plans perform in covering prevailing profes-

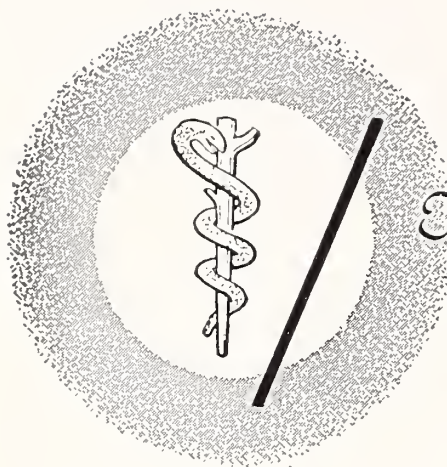
sional charges for surgical, medical, obstetrical, and anesthesia services. United States Blue Shield Plans, with an enrollment of nearly 42 million, participated in the survey. These Plans account for 83 per cent of Blue Shield's United States' membership.

"The survey was limited to a sample of physician services in the areas of surgery, anesthesia, medical, and maternity. These areas account for about 89 per cent of the money paid by the Plans that participated in the survey, the only one of its kind ever held.

"Over 470,000 questionnaires, selected in a scientifically drawn sample, were sent to physicians during a recent six-week period inquiring about their charges and Blue Shield's payments for selected services. Physicians returned better than 370,000 questionnaires, a response of nearly 80 per cent."

Data for Kansas should be available very shortly and will be announced as soon as it is received. It is expected that initial announcements will deal with generalized percentages only. During coming months, however, more detailed profiles will be available. These will provide specific information about performance by procedure, according to various schedules now in operation.

It is hoped that this information will assist Kansas Blue Shield to better evaluate the adequacy of its more widely held contracts as well as help direct considerations for improving specific allowances under statewide and local programs.



The Kansas Press Looks at Medicine

Editor's Note. In this section the JOURNAL reproduces editorials relating to medicine which have appeared in the lay press. An effort is made to include both favorable and unfavorable comments, and the Editorial Board in no instance assumes responsibility for the opinions expressed.

THE GRADUAL CHANGE

Here is an item handed in by L. E. Barry, 1005 Constitution St. that is worth consideration:

"There's an old story that says you can't kill a frog by dropping him in boiling water. He reacts so quickly to the sudden heat that he jumps out before he's hurt. But if you put him in cold water and then warm it up gradually, he never decides to jump till it's too late. By then he's cooked!

"Men are just as foolish. Take away their freedom overnight, and you've got a violent revolution. But steal it from them gradually (under the guise of 'security,' 'peace,' or 'progress') and you can paralyze an entire generation. Look at the income tax. It started out at a harmless sounding one per cent. It would have been easy to jump out of water as tepid as this, but like the frog, we waited while it climbed ever higher. (Try jumping now!)

"Worst of all, we never learn. Even today we cannot believe that Medicare is the same warm water that will one day boil us in Socialized Medicine. We see no connection between farm price supports and National Agriculture. And if we draw a parallel between subsidized teachers' pay and federal control of education, we are called 'extremist.'"

"The tragedies of history are always repeated by those who refuse to learn them. To seek guidance from the past is not 'turning the clock back' as we are so often told. It is merely a good way to keep out of hot water."—*Emporia Gazette*, February 6, 1965.

LOVE THE MEN BUT HATE THE BILLS

Between the public and the doctors there seems to exist a very profound love-hate relationship. So long as the emphasis is placed on the care physicians can

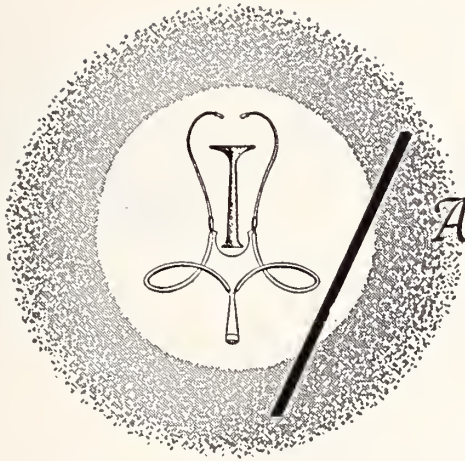
give, the healing in their hands, the public is fond of and even grateful to them. But when cost enters the picture, it clouds the situation rapidly.

Part of this is, of course, that in many cases medical expenses are not ordinary ones. They are not planned for in the budget, often, as one would for food needed (how does one foresee and expect a broken leg, for instance?). So this cost goes on top of others and it seems dire. Few persons ever ask themselves, "what is a leg fixed up straight again worth to me, in contrast to one I could hardly walk on?"

For persons of low income, medical bills are difficult, whatever the need. Most of the battle over Medicare centers around this factor. The proponents of Medicare have done a remarkable propaganda job; they have made persons expect a great deal more than the plain wording of bills offered in Congress would provide them. They have made the physicians seem hard hearted to many persons, particularly by those emotionally involved in this expectation.

Many persons, normally of the modern liberal stripe, find doctors very short sighted in their opposition to Medicare propositions, and they may be too conservative. But they are not wrong to fear plans which would turn them from private businessmen into public servants.

They need, of course, a "better public image." But how to get it is a problem, particularly with a public which apparently simply will not listen to what it does not wish to hear and retains the image it desires in defiance of fact and logic. How to overcome this willful blindness would be a task sufficient to baffle Solomon let alone physicians who are not trained propagandists.—*Dodge City Daily Globe*, January 13, 1965.



Announcements

Professional meetings, conferences, and postgraduate courses of national importance are listed for the Doctor's CALENDAR. Notice of the session is posted in advance to allow the physician time to make preparations.

MARCH

- Mar. 25-27 Annual meeting, Mid-Central States Orthopaedic Society, Velda Rose Towers, Hot Springs, Arkansas. Write the society at 4101 Westport, Wichita 67212, for more information.
- Mar. 22-26 American College of Physicians (Golden Anniversary Session), Conrad Hilton Hotel, Chicago. Write: Edw. C. Rosenow, Jr., M.D., 4200 Pine Street, Philadelphia 19104.
- Mar. 26-27 17th Annual Midwest Cancer Conference, Broadview Hotel, Wichita. Sponsored by the Medical and Scientific Committee of the Kansas Division, American Cancer Society. No registration fee is charged and advance registration is not necessary.
- Mar. 31-Apr. 2 Symposium on Gastroenterology, Medical College of Georgia, Augusta. Write: Dept. of Continuing Education, Medical College of Georgia, Augusta.

APRIL

- Apr. 3 Seminar in diseases of the nervous system, clinical and pathological considerations, St. Louis. Sponsored by the Missouri Society of Pathologists. Registration (including slides and case abstracts) \$10. Write: James G. Bridgens, M.D., St. Joseph's Hospital, Linwood at Prospect, Kansas City, Missouri 64108.
- Apr. 2-4 Annual meeting, American Society for the Study of Sterility, San Francisco. For registration information write: W. H. Robertson, M.D., 2700 Tenth Avenue, South, Birmingham, Alabama 35205.
- Apr. 4-8 Annual Clinical meeting, American College of Obstetricians and Gynecologists,

San Francisco. For information write the ACOG, 79 West Monroe Street, Chicago 60603.

- Apr. 5-8 American Industrial Health Conference, Americana Hotel, Bal Harbour (Miami Beach), Florida. For information: American Industrial Health Conference, 55 E. Washington, Chicago 60602.
- Apr. 12-16 17th annual scientific assembly of the American Academy of General Practice. For information write the American Academy of General Practice, Volker Blvd. at Brookside, Kansas City, Missouri 64112.
- Apr. 26-29 American Academy of Pediatrics, Americana Hotel, Bal Harbour (Miami Beach), Florida. Write the American Academy of Pediatrics, 1801 Hinman Avenue, Evanston, Illinois 60204, for information.

POSTGRADUATE COURSES

American College of Physicians.

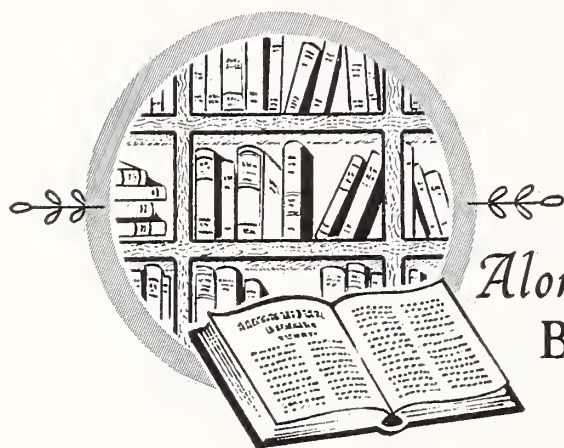
- Apr. 5-9 *Nuclear Medicine for the Internist*, Baltimore.
- Apr. 26-30 *Cardiopulmonary Diseases*, Denver.

For additional information and registration write Edward C. Rosenow, Jr., M.D., The American College of Physicians, 4200 Pine Street, Philadelphia 19104. Tuition Fees: Members, \$60; Nonmembers, \$100.

University of Nebraska:

- Apr. 5-6 *Pediatrics*
- May 10-11 *Surgery and Trauma*

All courses applicable for Category 1 credit, American Academy of General Practice. For more information
(Continued on page 160)



Along The BOOKSHELF

Clendening Medical Library

Recent Acquisitions

- Ariëns, E. J., ed. *Molecular pharmacology: the mode of action of biologically active compounds*. Academic, 1964. v. 2.
- Baer, T. W. *A primer of skin diseases for physicians and students*. Thomas, 1963.
- Bambusch, F. and others. *Die urologische Begutachtung und Dokumentation. The urologist's expert opinion and documentation*. Springer, 1965. (Handbuch der Urologie v. 7, pt. 2)
- Bellak, Leopold, ed. *Handbook of community psychiatry and community mental health*. Grune & Stratton, 1964.
- Bickel, Georges and others. *Unspezifische Entzündungen. Non-specific inflammations*. Springer, 1964. (Handbuch der Urologie v. 9, pt. 1)
- Black, D. A. K. *Essentials of fluid balance*. 3d ed. Davis, 1964. Ciba Foundation Study Group No. 18, London, 1964. *Brain-thyroid relationships, with special reference to thyroid disorders*. Little, Brown, 1964.
- Columbia University. School of Public Health and Administrative Medicine. "Long stay" hospital care. Columbia, 1963.
- European Society for the Study of Drug Toxicity. *Effects of drugs on the foetus. Proceedings*, v. 1. Excerpta Medica, 1963.
- Flint, Thomas. *Emergency treatment and management*. 3d ed. Saunders, 1964.
- Geismar, L. L. and La Sorte, M. A. *Understanding the multi-problem family*. . . . Association, 1964.
- Kansas University Medical Center. *A guide to the control of communicable disease within the hospital*. 1964.
- Lewin, Louis. *Phantastica: narcotic and stimulating drugs, their use and abuse*. Trans. from 2d German ed. Dutton, 1964.
- Litwack, Gerald and Kritchevsky, David, eds. *Actions of hormones on molecular processes*. Wiley, 1964.
- Lodge, Thomas. *Recent advances in radiology*. 4th ed. Churchill, 1964.
- Madden, J. P. L. *Atlas of technics in surgery*. 2d ed. Appleton-Century-Crofts, 1964. 2 v.
- Markowitz, Jacob and others. *Experimental surgery, including surgical physiology*. 5th ed. Williams & Wilkins, 1964.
- Mazlish, Bruce, ed. *Psychoanalysis and history*. Prentice-Hall, 1963.
- Perry, K. M. A. and Sellors, T. H., eds. *Chest diseases*. Butterworths, 1963. 2 v.
- Potts, W. T. W. and Parry, Gwyneth. *Osmotic and ionic regulation in animals*. Pergamon, 1964.
- Rushing, W. A. *The psychiatric professions; power, conflict, and adaptation in a psychiatric hospital staff*. Univ. North Carolina, 1964.
- Schofield, William. *Psychotherapy: the purchase of friendship*. Prentice-Hall, 1964.
- Schütte, K. H. *The biology of the trace elements, their role in nutrition*. Lippincott, 1964.
- Smith, I. H. and others. *Cobalt-60 teletherapy, a handbook for the radiation therapist and physicist*. Harper & Row, 1964.
- Symposium on Foods: *Proteins and Their Reactions*, Oregon State University, 1963. Papers. Avi, 1964.
- Topley, W. W. C. *Topley and Wilson's principles of bacteriology and immunity*. 5th ed. by G. S. Wilson and A. A. Miles. Williams & Wilkins, 1964. 2 v.



Book REVIEWS

DISORDERS OF LANGUAGE, edited by A. V. S. deReuck and M. O'Connor (Ciba Foundation Symposium), Little, Brown & Co., Boston, 1964. 356 pages. \$11.00.

Disorders of Language represents the published proceedings of a symposium on aphasia and related problems sponsored by the Ciba Foundation in May, 1963, in London. The Ciba Symposium on Language Disorders, one of a series of Ciba Foundation Symposia, invited a select group of neurologists, neurophysiologists, experimental and learning psychologists, speech pathologists, and linguists to provide a multi-disciplinary approach to language disorders. Formal papers presented by Lord Brain, R. Jakobson, D. H. Howes, D. E. Broadbent, F. Goldman-Eisler, E. Bay, A. R. Luria, T. Alajouanine, W. D. Neff, B. Milner, H. Hécaen, O. L. Zangwill, E. Stengel, A. S. C. Ross, and M. Critchley were followed by related discussion by all conference participants.

The problem of aphasia is compounded by confusion among and between three traditional approaches to the problem: (1) the anatomical; (2) the physiological; and (3) the behavioral. As discussed in the Symposium, there is greater agreement today in our understanding of the cerebral anatomy involved in language pathology. Cerebral physiology, however, and its relationship to language is little understood. With the inclusion of many behavioral scientists at the Symposium, efforts were made to develop a broader awareness of the behavioral manifestations of language, particularly as they might apply to cerebral physiology. Literature review, reports of research, and "honest speculation" characterize presentations on linguistics, information theory, cerebral dominance, language perception, and intelligence (to name a few topics discussed). Because of its relatively wide scope of attempting to relate behavioral science to medicine, *Disorders of Language* would be a particularly valuable book for both the physician desirous of increas-

ing his knowledge of the behavioral aspects of aphasia, and for the psychologist-speech pathologist interested in developing greater awareness of neurophysiological research related to language disorders. The linguistic aspects of the problem of aphasia as presented in the conference are basic in presentation and helpful to the non-linguist in an attempt to relate psycholinguistics to the clinical problem of aphasia.

Like other books representing transcripts of conference proceedings, there are some wasted pages of confusing and irrelevant comments. However, the strength of the book appears to be its "live" discussions of papers with many exciting inferences and speculative remarks relative to our future research direction in language and language disorders.—D.R.B.

COMMON COMPLAINTS—CONSULTATIONS IN MEDICINE (a collection of medical articles from *Consultant* magazine), Smith Kline & French Laboratories, Philadelphia. 206 pages. \$3.00.

This book is a collection of medical articles from *Consultant* magazine which is published ten times a year by Smith Kline and French Laboratories. As the title implies this book deals only with common complaints, the kind met over and over in everyday practice. Forty authors have contributed articles on common complaints which run from "bed wetting" to "failing vision in the elderly." The particular articles selected from *Consultant* magazine for this book are those which interested the readers the most and seem to have given the most practical information.

To illustrate the wide variety of common complaints included in this book only a few will be listed and include recurring canker sores, needless foot problems in women, low back pain, postnasal drip, bad dandruff, and ingrown toenail. The first chapter deals

with "Nuisance Complaints" and includes short articles on snoring, constipation, foul breath, and so-called colic in infants. Perhaps the best chapter in the book is "Complaints About the Mind and Emotions" and includes a good article on pathological depression.

This book would be a valuable addition to the library of a young general practitioner who might still remember the salient features of Tsutsugamuchi fever but has not yet learned how to answer questions concerning grandpa's snoring.—D.R.P.

Nominating Committee

(Continued from page 154)

of Medicine in 1940. Has served as committee chairman and councilor.

John L. Morgan, M.D., Emporia. Born in 1915. Graduated from University of Pennsylvania School of Medicine in 1940. Is currently serving as councilor.

Edward F. Steichen, M.D., Lenora. Born in 1905. Graduated from Rush Medical College in 1931. Is currently serving as councilor.

Secretary

Kenneth L. Graham, M.D., Leavenworth. Born in 1921. Graduated from Ohio State University School of Medicine in 1945. Has served as committee chairman.

Leland Speer, M.D., Kansas City. Born in 1912. Graduated from the University of Kansas School of Medicine in 1936. Is currently serving as Secretary.

Treasurer

John L. Lattimore, M.D., Topeka. Born in 1894. Graduated from Fort Worth School of Medicine in 1918. Is currently serving as Treasurer.

AMA Delegate

Clyde W. Miller, M.D., Wichita. Born in 1909. Graduated from University of Louisville School of Medicine in 1936. Is currently serving as AMA Delegate.

John C. Mitchell, M.D., Salina. Born in 1913. Graduated from University of Kansas School of Medicine in 1938. Is currently serving as President.

Alternate AMA Delegate

William J. Reals, M.D., Wichita. Born in 1920. Graduated from Creighton University School of

Medicine in 1945. Is currently serving as councilor and Alternate AMA Delegate.

Evan R. Williams, M.D., Dodge City. Born in 1925. Graduated from Northwestern University School of Medicine in 1952. Is currently councilor and has served on Society committees.

Announcements

(Continued from page 157)

tion write: Director of Continuing Education, University of Nebraska College of Medicine, 42 & Dewey, Omaha 68105.

University of Colorado:

Apr. 15-17 *Clinical Dermatology* (registration limited to 32)

Apr. 26-30 *Cardio-Pulmonary Diseases* (ACP Course)

For further information write Office of Postgraduate Medical Education, University of Colorado School of Medicine, 4200 E. 9th Ave., Denver 80220.

University of Kansas:

Mar. 22-25 *Surgery*

Apr. 5-7 *Ophthalmology*

Apr. 8-9 *The Heart*

Apr. 21-23 *Anesthesiology*

Write the Department of Postgraduate Medical Education, University of Kansas Medical Center, Rainbow Blvd. at 39th, Kansas City, Kansas 66103.

Apr. 28-May 1 *Trauma*

The Chicago Committee on Trauma of the American College of Surgeons, Chicago (acceptable for 31½ hours of Category II credit by the AAGP). Registration \$75. Write John J. Fahey, M.D., 1791 Howard Street, Chicago 60626.

NEW MEMBERS

The JOURNAL takes this opportunity to welcome these new members into the Kansas Medical Society.

William N. Haffner, M.D.
209 D West 7th Street
Augusta, Kansas

Harry M. Ricketts, Jr., M.D.
Larned State Hospital
Larned, Kansas

Hardy A. Kemp, M.D.
Larned State Hospital
Larned, Kansas

Leonard L. Sullivan, M.D.
El Dorado Clinic
El Dorado, Kansas



Personalities—IN KANSAS MEDICINE

Dr. and Mrs. Roger L. Youmans, Kansas City, were among the 31 persons recently commissioned for Methodist missionary and deaconess services in the United States and seven other countries. After studying French and tropical medicine in Brussels, Belgium, for a year they will go to the Congo where Dr. Youmans will be a medical missionary and his wife will do educational work.

Among the radiologists to be made a fellow of the American College of Radiology at the group's annual meeting in Philadelphia in February was **Willis L. Beller** of Topeka.

Dr. and Mrs. Frank A. Trump, Ottawa, recently returned from a three week tour of South America, conducted under the auspices of the American College of Physicians. While in Buenos Aires they attended the Eighth Congress of the International Society of Internal Medicine.

H. O. Marsh, Wichita, traveled to Enid, Oklahoma, in January where he spoke to the Garfield County Medical Society on the subject "Treatment of Fractures in Children."

Charles E. Stevenson left Neodesha in January to begin a residency in anesthesiology at the Saint Francis hospital in Wichita.

Among the Kansas physicians who attended the week-long general practice review at the University of Colorado Medical Center in January were: **C. W. Bowen**, Topeka; **James L. Ruble**, Overbrook; **W. E. Schlotterback**, Mankato; **Findley Law**, Ellinwood; and **Asher W. Dahl**, Colby.

Nellie Walker, Kansas City, has been named to a committee to develop a plan for combatting poverty

in Wyandotte County under the new Economic Opportunity Act. Dr. Walker is director of the Wyandotte County City-County Health Department.

D. E. Kisecker of Caldwell is beginning his 63rd year of practice in that community. Dr. Kisecker, who is 94 years old, says that he is actually semi-retired, and sees only a few patients every day.

Accompanying **Emerson Yoder**, Denton, on his regular rounds one day in January were two visitors from Russia, Dr. Symyon B. Tokar and Dr. Igor S. Glazunov. The physicians from Russia were members of the staff at the USSR Medicine and Public Health Exhibition recently held at the municipal auditorium in Kansas City and were invited to Denton by Dr. Yoder after his visit to the exhibition.

Charles G. Stevens, Minneola, showed slides of life in Southern Rhodesia to members of Delta Kappa Gamma at their meeting in January. Dr. Stevens recently spent a month as resident physician in a mission station in Rhodesia.

"Boss of the Year" was the award given to **Jack Randle**, Bucklin, at the annual banquet of the Tri-County Jaycees held in Bucklin in February.

The fifth annual worry clinic sponsored by the Wichita-Sedgwick County Mental Health Association was held in February. Participating in the program were **C. J. Kurth** of Wichita and **Herman J. Moyer** of Derby.

Recently re-appointed health officers by the commissioners of their respective counties were **Richard E. Baldridge**, Kingman, Kingman County, and **Howard Elliott**, Pittsburg, Crawford County.

KANSAS STATE DEPARTMENT OF HEALTH

TOPEKA, KANSAS

Division of Preventable Diseases—Division of Vital Statistics—Kansas Morbidity Incidence

Summary of Cases Reported in November, 1964 and 1963

<i>Diseases</i>	<i>November</i>			<i>January to November Inclusive</i>		
	<i>1964</i>	<i>1963</i>	<i>5-Year Median 1960-1964</i>	<i>1964</i>	<i>1963</i>	<i>5-Year Median 1960-1964</i>
Amebiasis	1	5	5	25	83	46
Aseptic meningitis	4	—	1	25	—	25
Brucellosis	3	1	3	6	7	22
Cancer	328	288	328	4,126	4,286	4,126
Diphtheria	—	—	—	3	—	1
Encephalitis, infectious	3	7	2	81	19	27
Gonorrhea	195	216	216	2,867	2,706	2,590
Hepatitis, infectious	40	23	23	598	242	410
Meningococcal meningitis	1	2	1	9	13	13
Pertussis	—	6	4	15	73	39
Poliomyelitis	—	—	—	1	—	—
Rheumatic fever	—	—	—	3	—	3
Salmonellosis	18	32	18	271	270	270
Scarlet fever	26	8	26	110	296	455
Shigellosis	18	13	13	258	73	134
Streptococcal infections	156	158	156	1,542	1,395	1,335
Syphilis	44	52	75	832	975	1,072
Tinea capitis	4	2	5	74	62	114
Tuberculosis	18	12	18	235	254	242
Tularemia	1	3	3	5	19	14
Typhoid fever	—	—	—	3	2	3

POISON CONTROL CENTERS IN KANSAS

The following are the poison control centers now in operation in Kansas:

Ira Morrison, M.D., Director
Atchison Hospital
1301 North Second Street
Atchison, Kansas
Telephone—EMerson 7-2131

R. D. Boles, M.D., Director
Trinity Hospital
1107 Sixth Street
Dodge City, Kansas
Telephone—HUNter 3-3116

A. C. Irby, M.D., Director
Mercy Hospital
821 Burke
Fort Scott, Kansas
Telephone—BALdwin 3-2200

D. G. Shivel, M.D., Supervisor
Central Kansas Medical Center
3515 Broadway
Great Bend, Kansas
Telephone—GLadstone 3-2511

D. R. Davis, M.D., Supervisor
Newman Memorial Hospital
12th & Chestnut
Emporia, Kansas
Telephone—DICKens 2-7120

Vernon L. Branson, M.D., Director
Lawrence Memorial Hospital
325 Maine Street
Lawrence, Kansas
Telephone—Viking 3-3680

Frederick A. Gans, M.D., Director
St. John's Hospital
139 North Penn Street
Salina, Kansas
Telephone—TAYlor 7-5591 Ext. 213

Charles E. Lewis, M.D., Director
University of Kansas Medical Center
39th & Rainbow Boulevard
Kansas City 3, Kansas
Telephone—TALbot 2-5252 Ext. 428

James P. Haigler, M.D., Director
Hadley Memorial Hospital
201 East Seventh Street
Hays, Kansas
Telephone—MARket 4-2441

John P. White, M.D., Director
Labette County Medical Center
South 21st Street
Parsons, Kansas
Telephone—GARfield 1-4880

Bartlett J. Ramsey, M.D., Director
Stormont-Vail Hospital
10th & Washburn Streets
Topeka, Kansas
Telephone—CENTral 5-2361 Ext. 218

W. C. Goodpasture, M.D., Director
Wesley Hospital
550 North Hillside Avenue
Wichita, Kansas
Telephone—MURray 2-1511 Ext. 377

KANSAS POISON INFORMATION CENTER

Mr. Evan Wright, Director
Food and Drug Division
Kansas State Department of Health
Topeka, Kansas
Telephone—CENTral 5-0011 Ext. 753

THE KANSAS MEDICAL SOCIETY 106TH ANNUAL MEETING



HUTCHINSON KANSAS

The Kansas Medical Society—1964-1965

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Immediate Past President....	H. St. Clair O'Donnell, Ellsworth
President-Elect.....	George E. Burket, Jr., Kingman
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Secretary.....	Leland Speer, Kansas City
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A.M.A. Delegate.....	Clyde W. Miller, Wichita
A.M.A. Delegate.....	Lucien R. Pyle, Topeka
A.M.A. Alternate.....	William J. Reals, Wichita
A.M.A. Alternate.....	J. Warren Manley, Kansas City
Chairman of Editorial Board...	Orville R. Clark, Topeka

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District 4.....	Henry K. Baker, Chanute
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District 7.....	John L. Morgan, Emporia
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District 11.....	Ernest W. Crow, Wichita
District 12.....	L. W. Patzowsky, Kiowa
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District 15.....	Evan R. Williams, Dodge City
District 16.....	Edward F. Steichen, Lenora
District 17.....	John O. Austin, Garden City

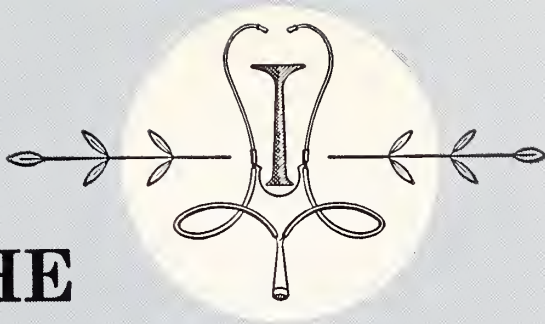
OFFICERS OF COMPONENT SOCIETIES—1965

<i>Society</i>	<i>President</i>	<i>Secretary</i>
Allen.....	George F. DeTar, Iola.....	Eugene Myers, Iola
Anderson.....	Robert L. Stevens, Garnett.....	Mildred J. Stevens, Garnett
Atchison.....	Robert O. Brown, Atchison.....	Ira R. Morrison, Atchison
Barton.....	Charles B. Replogle, Great Bend.....	Findley Law, Ellinwood
Bourbon.....	Addison C. Irby, Fort Scott.....	Dean T. Gettler, Fort Scott
Butler.....	J. Luis Ibarra, El Dorado.....	William N. Haffner, Augusta
Central Kansas.....	Irvin H. Mattick, Hays.....	Vale O. Page, Plainville
Chautauqua.....	L. Claire Hayes, Cedar Vale.....	William K. Walker, Sedan
Cherokee.....	H. L. Bogan, Baxter Springs.....	George Belcher, Columbus
Clay.....	G. B. McIlvan, Clay Center.....	Bruce McVay, Clay Center
Cloud.....	Paul L. Nelson, Concordia.....	Yong W. Kim, Concordia
Cowley.....	James E. Hill, Arkansas City.....	Edward H. Humston, Arkansas City
Crawford.....	C. W. Erickson, Pittsburg.....	P. C. Carter, Pittsburg
Dickinson.....	D. C. Rorabaugh, Abilene.....	J. W. Bell, Abilene
Douglas.....	Phillip A. Godwin, Lawrence.....	Dale L. Clinton, Lawrence
Edwards.....	M. Dale Atwood, Kinsley.....	F. G. Meckfessel, Lewis
Finney.....	G. R. Hastings, Garden City.....	H. M. Wiley, Garden City
Flint Hills.....	Leo F. McKee, Cottonwood Falls.....	Edward G. Campbell, Emporia
Ford.....	Clair C. Conard, Dodge City.....	R. Dale Boles, Dodge City
Franklin.....	C. W. Henning, Ottawa.....	R. S. Roberts, Ottawa
Geary.....	Alex Scott, Junction City.....	C. V. Minnick, Junction City
Greenwood.....	J. Gordon Claypool, Howard.....	Virgil C. Hollenbeck, Eureka
Harvey.....	Charles Isaac, Newton.....	Erwin T. Olson, Newton
Iroquois.....	Carl E. Olson, Fowler.....	Melvin H. Waldorf, Jr., Greensburg
Jackson.....	E. C. Moser, Holton.....	M. Ross Moser, Holton
Jefferson.....	W. A. R. Madison, Nortonville.....	
Johnson.....	George J. Pierron, Olathe.....	Robert M. Mathews, Shawnee Mission
Labette.....	Charles H. Miller, Parsons.....	Earl A. Martin, Parsons
Leavenworth.....	William C. Strutz, Leavenworth.....	Donald L. Snow, Leavenworth
McPherson.....	William J. Collier, McPherson.....	V. J. Loganbill, Moundridge
Marion.....	A. K. Ratzlaff, Goessel.....	T. C. Ensey, Marion
Miami.....	Jack G. Rowlett, Paola.....	W. O. Appenfeller, Osawatomie
Mitchell.....	J. F. Neinstedt, Beloit.....	C. A. Nystrom, Cawker City
Montgomery.....	Robert F. Moore, Caney.....	Kenneth Grigsby, Coffeyville
Neosho.....	Donald E. Ray, Chanute.....	G. L. Ashley, Chanute
Northeast Kansas.....	Val Converse, Horton.....	Robert D. Wood, Horton
Northwest Kansas.....	Asher W. Dahl, Colby.....	Francis R. Applegate, Goodland
Osborne.....	W. E. St. Clair, Downs.....	J. E. Henshall, Osborne
Pawnee.....	David H. Davis, Larned.....	William R. Brenner, Larned
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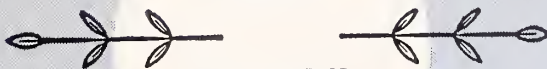
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*Lennox, W. G.: *Epilepsy and Related Disorders*, Boston, Little, Brown and Company, 1960, vol. 2, p. 865.

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Scientific ARTICLES

Snakebites in Kansas

Notes on Our Venomous Friends

HENRY M. PARRISH, M.D.,* *Columbia, Missouri*

KANSAS HAS THE SECOND highest annual incidence of poisonous snakebites of the states in the West North Central Region of the United States. The leading annual snakebite rates per 100,000 population for this region were found in Missouri (5.42), Kansas (5.28), South Dakota (4.56), and Nebraska (3.26). Rates of less than one per 100,000 per year were found for North Dakota, Minnesota and Iowa. It is rather surprising that there was only one snakebite fatality in Kansas during the ten year period, 1950 through 1959.¹ Very little has been published about poisonous snakebites in Kansas. Therefore, it seemed worthwhile to define the poisonous snakebite problem in Kansas, to relate some medical and epidemiologic findings associated with these bites, and to review briefly current concepts of snakebite treatment.

Poisonous Snakes

According to Conant, the following species and sub-species of poisonous snakes are indigenous to Kansas: the timber rattlesnake (*Crotalus horridus horridus*), the prairie rattlesnake (*Crotalus viridis*

viridis), the western diamondback rattlesnake (*Crotalus atrox*), the western massasauga (*Sistrurus catenatus tergeminus*), the desert massasauga (*Sistrurus catenatus edwardsi*), the northern copperhead (*Agkistrodon contortrix mokeson*), the broad-banded copper-

Since very little has been published about poisonous snakebites in Kansas, it seems worthwhile to define the problem in the state. Presented here are some of the medical and epidemiologic findings associated with these bites, and a brief review of snakebite treatment.

head (*Agkistrodon contortrix laticinctus*), and the western cottonmouth moccasin (*Agkistrodon piscivorus leucostoma*). Coral snakes are not native to Kansas. Thus, there are eight species or sub-species of poisonous snakes in Kansas. See Figure 1 for photographs of poisonous snakes of Kansas.

All of the venomous snakes of Kansas are pit vipers. They are so named because of a characteristic pit which is located between the eye and nostril on each side of the body. Pit vipers also are identified by elliptical pupils and by two well-developed fangs which protrude from the maxillae when the snake's

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Figure 1. Poisonous Snakes Indigenous to Kansas.

mouth is opened. Rattlesnakes have rattles which are attached to their tails. Harmless snakes do not have facial pits, they have round rather than elliptical pupils, and while they have teeth, they lack fangs.

Oftentimes people will chop off the head of a snake which has bitten someone and bring the snake's body in for identification. Pit vipers can be identified by turning the snake's belly upwards and noting a single row of subcaudal plates just below the anal plate. Harmless snakes have a double row of subcaudal plates. Figure 2 depicts the characteristic features of pit vipers and harmless snakes.

Methods of Study

A questionnaire and letter explaining the purpose of this study were mailed to a "selected" group of Kansas hospitals listed in *Hospitals* (Journal of the American Hospital Association) Guide Issue. The hospitals selected for this study were general hospitals, children's hospitals and college infirmaries. Army, Navy, Coast Guard, Public Health Service, Air Force and Veterans Administration hospitals also were sent questionnaires. Maternity, tuberculosis and mental hospitals were omitted as they would not be expected to treat snakebite victims. A total of 141 Kansas hospitals comprise the study group. Each hospital was requested to report all in-patients admitted to the hospital for snakebite treatment during 1958 and 1959.

Most hospitals do not code and tabulate the diagnoses of emergency room and out-patient clinic visits. Since some snakebite victims are not admitted to the hospital as in-patients, it seemed essential to ask a sample of practicing physicians how many snakebite victims they treated on both an out-patient (office, home, emergency room, etc.) and on an in-patient basis. Previous surveys,^{3, 4} have shown that most people with venomous snakebites are treated by general practitioners, surgeons, internists, pediatricians, and orthopedic surgeons. Therefore, a random sample

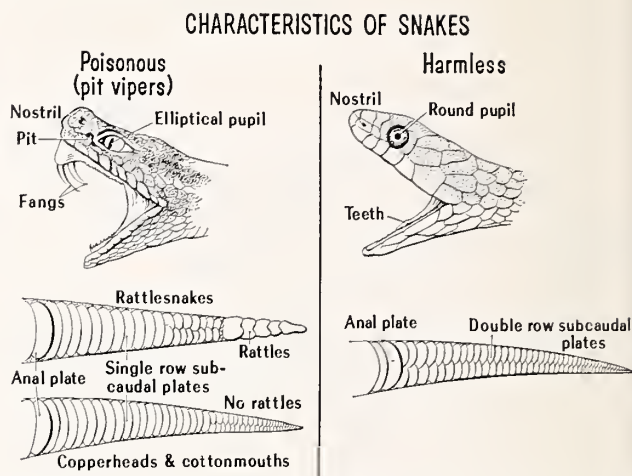


Figure 2. Characteristic Features of Poisonous (Pit Vipers) and Harmless Snakes.

of one third of all the Kansas physicians in these categories of practice who were listed in the AMA American Medical Directory were sent questionnaires.

Death certificates for fatal snakebite cases were obtained from the Kansas State Department of Health.

Results

This report is based on questionnaires returned by 138 (98 per cent) of 141 Kansas hospitals. It is supplemented by questionnaires returned by 317 (79 per cent) of 400 practicing physicians in the state. The Kansas State Department of Health indicated that there was one snakebite death during 1958 and none during 1959.

Incidence—Kansas hospitals reported a total of 56 in-patients treated for poisonous snakebites during 1958 and 1959. There were 26 cases in 1958 and 30 cases in 1959—an average of 28 cases per year. Of the 56 snakebites reported during 1958 and 1959, detailed case reports were received for 54 patients and only numbers of bites were reported for two cases. *All of the analyses in this paper, excluding the estimate of incidence, were based on the 54 detailed case reports received from hospitals.*

Physicians' reports, when adjusted to account for all Kansas physicians in the practice categories mentioned, indicated that approximately 48 in-patients and 67 out-patients were treated for snakebite accidents each year. The difference between the estimate of 48 in-patients treated by physicians and the average of 28 in-patients reported by hospitals can be explained, in part, by the following facts: (1) Three Kansas hospitals did not participate in the study; (2) Four counties from which physicians reported snakebites did not have hospitals listed in the *Hospitals* Guide Issue; (3) There was evidence of under reporting snakebite in-patients from eight hospitals

which participated in the study; and (4) Physicians indicated that some in-patients were treated in small clinics and hospitals not listed in *Hospitals* Guide Issue. Taking all of these various reports into consideration, I estimate that approximately 115 (48 in-patients and 67 out-patients) people are treated annually for poisonous snakebites in Kansas. This provides an incidence of 5.28 bites per 100,000 population per year.

Geopathology—The geographical distribution of snakebites reported in Kansas during 1958 and 1959 may be seen in Figure 3. The lightly shaded counties are those from which hospitals reported in-patients treated for snakebites. An appropriate symbol is used to mark each hospitalized patient who was bitten by a specific kind of snake. The darker shaded counties are those counties from which physicians reported snakebite cases, but from which no cases were reported by hospitals.

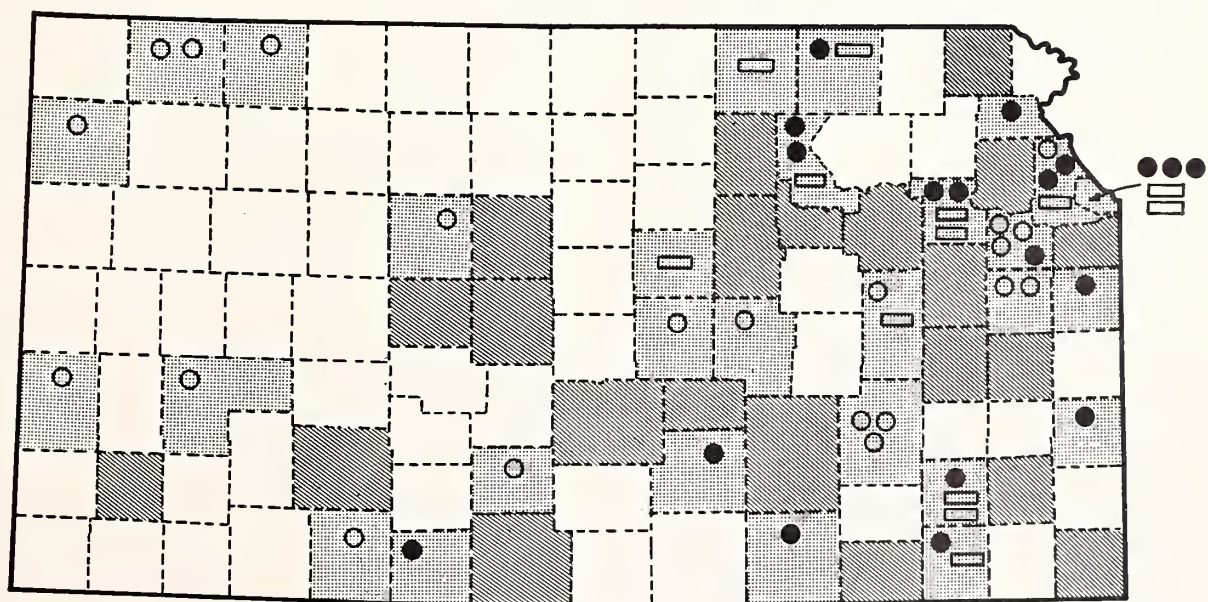
Of 54 people hospitalized for snakebite treatment for whom detailed records were available, 21 (39 per cent) were bitten by rattlesnakes, 19 (35 per cent) by copperheads, and 14 (26 per cent) by unidentified poisonous snakes. There were no cottonmouth moccasin bites reported.

Figure 3 shows that snakebites were reported from all sections of Kansas, but were most frequent in the eastern one third of the state. With one exception,

copperhead bites were confined to the eastern one half of the state. Rattlesnake bites were reported from all parts of Kansas. With one exception, all of the snakebite cases reported from the western one half of the state were inflicted by rattlesnakes. It seems likely that a high percentage of bites by unidentified poisonous snakes were actually inflicted by copperheads. By comparing reported bite cases with the ranges of snakes, one may conclude that cottonmouth moccasins and western diamondback rattlesnakes cause few snakebites in the state. These geographical patterns of bites by various kinds of snakes are consistent with the ecological ranges of poisonous snakes in Kansas described by Conant.²

Temporal Relationships—The monthly distribution of snakebite accidents is shown in Table 1. Snakebites were infrequent during the colder months of the year—November, December, January, February and March. In general, snakes are usually inactive or hibernating during the colder months. Most snakebites in Kansas occurred from April through October when 52 (96 per cent) of the 54 bites were inflicted. This striking seasonal distribution of bites coincides with the time that snakes are most abundant and active and with the time that people have greater exposure due to out-of-doors occupations and recreation. Similar "seasonal epidemics" of venomous snake-

KANSAS



HOSPITALIZED SNAKEBITE CASES (EACH SYMBOL=1 CASE)

- RATTLESNAKE
- COPPERHEAD
- ▭ UNIDENTIFIED SNAKE

SNAKEBITE CASE REPORTS

- ▨ COUNTIES FROM WHICH HOSPITALS AND PHYSICIANS REPORTED CASES.
- ▩ COUNTIES FROM WHICH ONLY PHYSICIANS REPORTED CASES.

Figure 3. Geographical Distribution of Poisonous Snakebites in Kansas, 1958 and 1959.

TABLE 1
SEASONAL DISTRIBUTION OF POISONOUS
SNAKEBITES IN KANSAS, 1958 AND 1959

Month	No. Bites	Month	No. Bites
January	0	July	11
February	0	August	12
March	0	September	4
April	1	October	4
May	10	November	1
June	10	December	1

bites have been observed in New England, and North Carolina.^{3, 4}

The time of day when most snakebite accidents happened was the six hour period from 3:00-8:59 P.M. when 27 (50 per cent) people were bitten. The number of bites by three hour periods of time were: 6:00-8:59 A.M., five bites; 9:00-11:59 A.M., six bites; 12:00 noon-2:59 P.M., ten bites; 3:00-5:59 P.M., 13 bites; 6:00-8:59 P.M., 14 bites; 9:00-11:59 P.M. two bites; and 12:00 midnight-2:59 A.M. one bite. There were no bites between 3:00-5:59 A.M. The time of the bite was not stated for three cases.

Bite Victims—There were 36 white males, 17 white females, one non-white male and no non-white females admitted to Kansas hospitals for snakebite treatment during 1958 and 1959. Using the 1960 census for the population of Kansas the bite rates per 100,000 population were: 3.49 for white males, 2.0 for non-white males, 1.62 for white females and 0.0 for non-white females. Thus, males had higher snakebite rates than females and whites had higher rates than non-whites.

The age distribution of Kansas bite victims is shown in Table 2. The largest number of bites happened to children and youths 0-9 years of age (15 bites). Forty-six per cent of all snakebites were inflicted on children and young adults less than 20 years of age. Age-specific bite rates are much more meaningful since they take into account the population at risk in a particular age group. The highest biannual bite rate per 100,000 population was: 20-29 years of age (3.80). The lowest bite rate was found among people 70 or more years of age.

An analysis of the occupations of the patients showed that 26 were children, 11 were farmers or farm laborers, seven were housewives, two were craftsmen, and two were laborers other than farm laborers. One each was a professional (school teacher), manager, and retired. The occupation was not coded for the remaining bite victims.

Activity and Place—Ten bites occurred while the victims were working on a farm not near the house,

seven while children were playing, four in their own yards and three elsewhere. An additional four people were bitten while working or walking in their own yards. Four people were bitten while handling a poisonous snake, four while engaged in recreation other than hunting and fishing, three while working around a barn or hen house, and two each while fishing, picking up lumber or wood, while reaching into an obscure place, and while walking or working on a highway. The activity was not coded for the remaining patients.

The place where the bite accident happened is closely related to the activity when bitten. The largest number of bites, 11, happened right in patients' yards. Ten people were bitten on a farm not near the house, six in a field away from the house, six near a lake, river or other body of water, four in or under a building, three in a barn or hen house, two on or

TABLE 2
AGE DISTRIBUTION OF HOSPITALIZED
SNAKEBITE VICTIMS IN KANSAS,
1958 AND 1959

Age Group (years)	Population at Risk*	No. Bites	Rate per 100,000**
0-9	474,281	15	3.16
10-19	355,401	10	2.81
20-29	263,337	10	3.80
30-39	283,449	5	1.76
40-49	253,279	3	1.18
50-59	217,000	7	3.23
60-69	173,904	3	1.73
70 or more	157,960	1	0.63

* Based on the 1960 Census of the Population of Kansas.

** These rates are only on hospitalized patients for whom information was available.

near a highway and two in a field near the house. Of the four people bitten inside a building, two were handling snakes indoors, one was cleaning out an old shed, and one was working in a warehouse. The place where the bite accident took place was not coded for the remaining patients.

Site and Severity—The anatomical sites on human beings where venomous snakes inflicted their bites are shown in Table 3. Ninety-six per cent of the bites were inflicted on the extremities—46 per cent on the upper extremities and 50 per cent on the lower extremities. The fingers and hands were the parts most often bitten on the upper extremities. The lower legs, including the ankles, were the parts most frequently bitten on the lower extremities. The site of the bite was not stated for two patients.

TABLE 3
ANATOMICAL SITES OF BITES INFLICTED
BY POISONOUS SNAKES IN KANSAS,
1958 AND 1959

Anatomical Site of Bite	Side of Body		Total No. of Bites
	RIGHT	LEFT	
Head, face & neck ..	0	0	0
Trunk, front	0	0	0
Trunk, back	0	0	0
Upper arm	1	0	1
Forearm	1	1	2
Hand	4	3	7
Fingers	10	5	15
Upper leg	1	1	2
Lower leg & ankle ..	11	10	21
Foot	2	1	3
Toes	1	0	1
Not stated	—	—	2

A modification of the clinical classification of pit viper venenation by Wood, Hoback and Green was used to determine the severity of bites. Bites were classified as follows:

- Grade 0—*No venenation.* Fang or tooth marks, minimal pain, less than 1 inch of surrounding edema and erythema. No systemic involvement.
- Grade I—*Minimal venenation.* Fang or tooth marks, severe pain, 1-5 inches of surrounding edema and erythema in first 12 hours after bite. No systemic involvement usually present.
- Grade II—*Moderate venenation.* Fang or tooth marks, severe pain, 6-12 inches of surrounding edema and erythema in first 12 hours after bite, systemic involvement may be present—nausea, vomiting, giddiness, shock or neurotoxic symptoms.
- Grade III—*Severe venenation.* Fang or tooth marks, severe pain, more than 12 inches of surrounding edema and erythema in first 12 hours after bite, systemic involvement usually present as in Grade II.

The severity of venenation (venom poisoning) was classified as follows for 41 hospitalized cases: 10 (24 per cent) were Grade 0; 13 (32 per cent) were Grade I; 11 (27 per cent) were Grade II; and 7 (17 per cent) were Grade III. For the remaining 13 hospitalized cases the severity of venenation was not stated. There was one death among the 54 hospitalized cases in this series, providing a case-fatality rate of 1.9 per cent. However, when one takes into account the snakebite victims treated on both an in-patient and an out-patient basis, the true case-fatality

rate is less than 0.5 per cent. This estimate is confirmed by the fact that there was only one snakebite death in Kansas from 1950-1959.¹ This fatality involved a seven-year-old boy who stepped on a rattlesnake while playing on a river bank. Medical treatment was started 30 minutes after the accident, but the boy died eight hours later. Contrary to popular belief, few patients die within the first few hours following a poisonous snakebite. About 70 per cent of them die from 6 to 48 hours after venenation takes place.⁶

The paradox in Kansas of a relatively high snakebite incidence rate with a low case-fatality rate can be attributed to: (1) a high percentage of copperhead bites; (2) the prompt availability of medical care; and (3) the effectiveness of snakebite treatment. Large rattlesnakes (*Crotalus sp.*) cause more deaths than any other poisonous snakes in the United States.⁶ There were no deaths in the United States definitely attributed to copperheads from 1950-1959.¹ This finding should not imply that copperhead bites are not occasionally serious or are not potentially lethal.

Treatment

The current treatment of North American pit viper (rattlesnake, cottonmouth moccasin and copperhead) bites includes both minor surgery and medical forms of treatment. A constricting band (tourniquet) should be applied lightly to the involved extremity several inches proximal to the bite. The constricting band should be applied only tight enough to occlude the superficial venous and lymphatic flow. *It should not occlude the arterial circulation* and it should be released every 10-15 minutes for a minute or two. As edema resulting from venom poisoning spreads, the constricting band should be advanced to keep just ahead of the swelling. The purpose of the constricting band is to impede the spread of venom until incision and suction can be used to remove the venom mechanically or until antivenin can be administered to neutralize the venom.

Incision and suction (I.S.) is effective in removing venom from experimental animals up to about 120 minutes after the venom is injected. The sooner it is used, the larger the amount of venom that can be removed. Suction should be used for about one hour. We have found the suction cups supplied in the Cutter and the Becton-Dickinson snakebite first-aid kits effective for removing pit viper venom. Incisions, one-quarter-inch long and one-eighth- to one-quarter-inch deep, are made into the subcutaneous tissues over the fang punctures. A few (3-5) additional incisions may be made in the surrounding edematous tissues. A large number of incisions is not needed. Immobilization aids in limiting the spread of venom. However, if one must decide between immobilization or seeking

prompt medical treatment, the latter should be sought.

The "three A's" (antivenin, antibiotics, and tetanus antitoxin or toxoid) are recommended, in addition to I.S., in treating all serious pit viper bites. Antivenin Crotalidae Polyvalent (Wyeth) is effective in neutralizing the venoms of all North American pit vipers. It is not protective against coral snake venom. Since antivenin is manufactured from horse serum, the patient should receive a skin test before antivenin is given. For Grade I venenations antivenin may be administered in the deltoid or gluteus muscles. In Grade II and Grade III venenations, antivenin diluted in 1000cc. of normal saline may be given intravenously.⁷ Studies with radioisotopes have shown that antivenin accumulates at the site of the bite more rapidly after intravenous administration than after intramuscular administration.⁸ Injection of antivenin into the local bite area is not a particularly effective way to administer antivenin. We have found the following amounts of antivenin useful in treating the various Grades of venenation: Grade 0 (no venenation) requires no antivenin; Grade I (minimal venenation) may require 10cc. (one ampoule) of antivenin; Grade II (moderate venenation) requires 30-40cc. of antivenin; and Grade III (severe venenation) requires 50cc. or more of antivenin.

Since snakes' mouths and venoms may harbor pathogenic organisms, antibiotics and tetanus antitoxin or toxoid should be given prophylactically. Gram negative organisms predominate, hence a broad spectrum antibiotic is indicated. Penicillin used by itself is not adequate treatment.

Cortisone and ACTH do not affect the survival rate of animals poisoned with pit viper venom. They probably should not be used during the first few days after venenation, although they may be beneficial later in treating serum sickness resulting from antivenin therapy. Antihistamines are contraindicated as they shorten the survival time of animals poisoned with pit viper venoms. Shock resulting from venom poisoning should be treated with infusions of blood, plasma, saline solution and vasopressor drugs. Meperidine hydrochloride and other analgesics may be given to relieve pain. Recently there have been reports of excessive tissue necrosis and amputations associated with cold therapy such as packing an extremity in

ice or using ethyl chloride.⁸ In my opinion, cold therapy should not be used in treating pit viper bites.

Summary

Kansas has the second highest annual incidence of poisonous snakebites of the states in the West North Central Region of the United States. An estimated 115 (48 in-patients and 67 out-patients) people were bitten by snakes annually—an incidence of 5.28 bites per 100,000 people. However, the estimated case-fatality rate was less than one half of one per cent.

Of 54 in-patients reported in detail by Kansas hospitals during 1958 and 1959, 21 (39 per cent) were bitten by rattlesnakes, 19 (35 per cent) by copperheads, and 14 (26 per cent) by unidentified poisonous snakes. "Seasonal epidemics" of snakebites occurred with 96 per cent of the bites inflicted from April through October. August was the peak month for bites.

Males had higher bite rates than females and whites had higher rates than non-whites. Forty-six per cent of the cases were among children and young adults less than 20 years of age. Ninety-six per cent of the bites were on the extremities—46 per cent on the upper extremities and 50 per cent on the lower extremities. Current snakebite treatment is discussed.

Acknowledgement: The author cites with gratitude the technical assistance of the following persons: Judi Pummill, Genevieve Calescibetta, and Linda Hinson.

References

1. Parrish, H. M.: Analysis of 460 fatalities from venomous animals in the United States, *Am. J. Med. Sc.* 245:129-141 (Feb.) 1963.
2. Conant, R.: A field guide to reptiles and amphibians of Eastern North America, Boston, Houghton Mifflin Co., 1958.
3. Parrish, H. M., Badgley, R. F., and Carr, C. A.: Poisonous snakebites in New England, *New Eng. J. Med.* 263:788-793 (Oct. 20) 1960.
4. Parrish, H. M.: Poisonous snakebites in North Carolina, *North Carolina Med. J.* 25:87-94 (March) 1964.
5. Wood, J. T., Hoback, W. W., and Green, T. W.: Treatment of snake venom poisoning with ACTH and cortisone, *Virginia M. Monthly* 82:130-135 (March) 1955.
6. Parrish, H. M.: Mortality from snakebites, United States, 1950-1954, *Public Health Reports* 72:1027-1030 (Nov.) 1957.
7. Parrish, H. M.: Intravenous antivenin in clinical snake venom poisoning, *Missouri Med.* 60:240-244 (March) 1963.
8. McCullough, N. C., and Gennaro, J. F., Jr.: Evaluation of venomous snakebite in the Southern United States from parallel clinical and laboratory investigations: Development of Treatment, *J. Florida M. A.* 49:959-967 (June) 1963.

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Leprosy

Mycobacterial Neurodermatosis: Report of a Case

J. R. COOPER, M.D., *Shawnee Mission*

MYCOBACTERIAL NEURODERMATOSIS (MND) is an extremely chronic infection of the skin and peripheral nervous system attributed to an acid-fast bacillus displaying *unusually* low rates of infectivity. The manifestations are cutaneous and neurological, yet both appear to some degree somewhere in the course of the disease.

Loss of pain appreciation is a striking feature, and it may appear without the loss of other modalities of sensation (dissociated), or it may be attended by both motor and complete (all modalities) sensory paralysis. The infection is prone to invade the distal ramifications of the peripheral nervous system first and then spread proximally along nerve trunks without invading the central nervous system. An erythematous skin lesion is sometimes associated with the initial invasion of the cutaneous nerves. These may be evanescent or enlarge, and the center may become white or hypopigmented, and hypesthetic or anesthetic. Another type of lesion develops as a nodule in the skin, which enlarges, thickens, and becomes nodular at the edges. The clinical manifestations of a peripheral neuropathy may appear as the infection involves the larger nerve trunks. The thickened, nodular, nerve trunks may then be palpated. Pain, it should be emphasized, may appear with the neuropathy. Systemic manifestations (fever, malaise, tachycardia, sweats, and weight loss) are normally absent, but they may appear with transient acute exacerbations or during sulfone therapy, at which time the neurocutaneous manifestations are prone to increase significantly.

Disfigurement, deformity, and disability are late manifestations of the infection which may be reduced by early diagnosis and treatment. The iris and corneal structures may become involved and lead to blindness. Prior to sulfone therapy, laryngeal obstruction that required tracheostomy was a frequent complication. The loss of pain appreciation predisposes to trauma and secondary scarring, infection, or bone injury. Peripheral neuropathies, contractures, and trophic changes may develop and require as a therapeutic adjunct, cosmetic, corrective, or rehabilitative surgery. The eyebrows, which are frequently lost in the course of the infection, may be replaced with skin grafts obtained from the scalp. Peripheral nerves may require transplantation, neurolysis, or decompression.

MND is attributed to the acid-fast *Mycobacterium leprae* bacillus which was described first by Dr. G. A. Hansen in 1874 and preceded the description of the more widely appreciated *Mycobacterium tuberculosis* by ten years. The lepra cell, in which the bacillus may be found, was described earlier by Danielssen, Hansen's father-in-law.

Endemicity is usually found in warm, moist climates where life demands close and prolonged contact.

The clinical, pathological, historical and epidemiological features of mycobacterial neurodermatosis have been reviewed briefly. A case report has been presented with the interesting complication of pregnancy, and an unusually satisfactory therapeutic result with appropriate treatment.

While man is the only recognized host and reservoir, the exact mode of transmission is unknown. Infectivity is normally quite low and requires the most favorable circumstances in which to occur, although it will frequently occur in the absence of demonstrable contacts or exposure. Attendants or personnel of leprosaria rarely develop the infection. The renowned Father Damien is, of course, an outstanding exception. Volunteers, numbering 145 or more, have submitted to inoculations with the bacillus. Infection developed in only one of these cases, but previous exposure materially reduced the significance of probable transmission by the inoculation. In Melbourne, Australia, during World War II, two marines simultaneously received tattoos. Manifestations of the disease developed in the tattooed skin of both marines nearly three years later. It is the only bacterial infection in which Koch's postulates have not been fully satisfied.

It has been difficult to grow the organism in cultures or animals, although some promising results were recently obtained in small laboratory animals, particularly the footpads of mice. The short life span of laboratory animals and the long incubation period for the disease have been obstacles. From growth studies in the footpads of mice, 84 strains of *M. leprae* have been identified and prospects for a vaccine are emerging.

Susceptibility is an important infectivity factor. Familiar patterns have suggested a strong genetic susceptibility. The disease *per se*, it should be emphasized, is not inherited or transmitted at birth. Due perhaps to the intimacy of handling, infants are especially liable to infection. Males are infected almost twice as frequently as females. Host susceptibility seems to vary from time to time, being enhanced by factors such as pregnancy, menstruation, malnutrition, and other conditions.

Intradermal injection of killed *M. lepra* bacilli induces an immunological response, the lepromin skin reaction. The tuberculin skin test is frequently positive in Hansen's disease and the lepromin test is frequently positive in tuberculosis, which destroys the diagnostic value of the test. False serological reactions for syphilis are common.

Chalmoogra oil, a poor therapeutic measure at best, has been replaced in the management of Hansen's disease by a group of related drugs, the sulfones. They were introduced about 1941 and the therapeutic results have dispelled the despair of the afflicted. Complications, such as iritis and toxic exacerbations, attend the institution of therapy, require discretionary drug changes, and the use of supplementary medication such as the corticosteroids. The USPHS hospital at Carville, Louisiana, prefers to establish an accurate diagnosis and supervise the initiation of treatment. The patient in this setting simultaneously acquires a broad education with regard to all aspects of the disease. The importance of this from a psychological, sociological, and epidemiological point of view bears emphasis.

Poorly defined Biblical concepts have been responsible for many of the sociological implications of leprosy. *Tsaraath*, the Hebrew word meaning stricken or defiled, was translated in the Greek Septuagint to *lepra*, meaning scale or parchment, which forms the basis for persisting Biblical taboos and stigmata that no longer deserve a place in a modern scientific world. The defiled were subject to temporary or permanent exclusion from camps or societies in the Biblical period. As an isolation technique this is understandable, but *deflement* was synonymous with *unclean* and the moral aspects were not clearly differentiated from the hygienic factors. Biblical leprosy referred to an aggregate of poorly defined diseases, which now are compatible with syphilis, vitiligo, psoriasis, pemphigus, elephantiasis, and various fungal, pustular, and tumorous skin conditions. It has been difficult, if not impossible, to identify Hansen's disease with Biblical leprosy. Some have combined the epidemiological aspects of Hansen's disease with the sparse, nomadic living customs of Biblical history and concluded it did not exist in the pre-Christian era. For these reasons, some feel there

is need to redefine leprosy and more accurately rename Hansen's disease. Mycobacterial neurodermatosis was proposed by Dr. J. Ross Innes.

Case Report

A 28-year-old, pregnant, Greek female was seen on September 9, 1963, with pain in the right upper arm and loss of pain appreciation. Loss of pain appreciation appeared in the right forearm in 1956, and it became manifest by the repeated incurrence of third degree burns on the extremities in the process of cooking and similar household chores. The lateral aspects of the eyebrows were lost in 1959. Small erythematous areas appeared on the upper arms and forearms in 1963.

She was in the sixth month of her fifth pregnancy. Dystocia led to fetal death in the second pregnancy. A reactive blood serology was encountered during the third pregnancy in 1959 and again in her fourth and fifth pregnancies. She received antisyphilitic therapy (Penicillin) twice. In all instances the cord serology was non-reactive. In 1961 a Reiters test was negative and a recent TPI test was negative.

The patient was born in Greece. Her father immigrated to the United States in 1939. Her mother was killed in World War II. The sibs were separated until they immigrated to the United States in 1947 to join the father. Following the death of her mother, the patient was reared by her grandmother. During this period she developed an upper respiratory infection. Her grandmother therapeutically made multiple superficial incisions in the skin of the anterior and posterior chest. During the German occupation she received for an infection two gluteal injections that resulted in gluteal scars.

Her sister developed manifestations of Hansen's disease in the United States and was confined to the USPHS Leprosarium at Carville, Louisiana, for a period approximating 14 years. The disease was arrested. Since her release, she has married and has children who are free of the disease. There was a distant maternal history of Hansen's disease.

Physical examination revealed an emotionally labile individual, who presented multiple obvious circular scars on the arms that represented healed third degree burns. Over the anterior and posterior chest there were innumerable short, parallel, linear scars which had been therapeutically inflicted by her grandmother during a childhood respiratory infection presumed to be pneumonia. In each buttock there was an area of subcutaneous cicatricial deformity which appeared after gluteal injections had been administered for an infection incurred during the war years. The lateral aspects of the eyebrows were sparse or missing. The striking neurological change consisted of preserved

touch and proprioceptive sensations and dissociated loss of pain and temperature appreciation. Although this was generalized in distribution, there were patches of preserved sensation in the trunkal areas. Motor changes in the hands and arms were absent. A tender node was palpable in the course of the neurovascular bundle above the right elbow, which felt more like a lymph node than a neurovascular element.

She was hospitalized in October of 1963. Fresh skin biopsies, taken from the dorsal skin folds at the elbow, revealed acid-fast bacteria consistent with *M. leprae*. The histological slides from a wart removed in 1958 were reviewed and non-specific granulomata were observed. Acid-fast bacilli were then demonstrated in the wart section, but in reduced numbers.

A child was delivered by caesarian section on November 19, 1963. Abdominal skin obtained on this occasion was histologically processed both locally and by the USPHS hospital at Carville, which revealed an increase in the number of acid-fast organisms. Relative isolation of the newborn infant was instituted and examination of the sibs revealed no evidence of the disease.

The patient was admitted to the USPHS hospital in Carville, Louisiana, on January 28, 1964. Diaminodiphenyl sulfone was orally administered daily in 5 mg. doses. This was increased gradually (individualized for each case) until 100 mg. daily was tolerated. An unusually satisfactory response permitted her to be released on April 3, 1964. Clinical arrest is seldom achieved in less than three years, therefore therapy may be continued over a span of many years or for life. Inactivity is present when there have been no clinical signs or symptoms of the disease for one year and skin biopsies reveal no evidence of activity.

Discussion

The early diagnosis of mycobacterial neurodermatosis may present difficulties. Clinical familiarity and suspicion is usually low in areas where the disease is rarely encountered. Sensory changes of the stocking-glove type may suggest a psychogenic etiology rather than an organic illness. Sensory dissociation may be overlooked unless all modalities of sensation are appraised in the neurological examination. The

semantics of the patient, colored by knowledge, fears, and apprehensions may at times be confusing. The complaint in this instance was not of loss of pain or sensation, but she said, "I burn easy." The clinical features which seemed to differentiate this case from syringomyelia were preservation of sensation in (non-anatomical) patches and the absence of motor changes in the upper extremities.

Since the diagnosis is established by skin biopsy, the specimen should be obtained from involved areas. The cooler exposed surfaces of the body display a predilection for involvement. The eyebrows, elbows, and ear lobes have been suggested as rewarding areas for biopsy material. While nasal scrapings have been suggested, non-pathogenic acid-fast bacilli are encountered in the nose that may confuse the diagnosis. Routine paraffin histological preparation may dissolve wax from the bacteria and interfere with the usual acid-fast stain. This problem can be circumvented with special techniques of preparation and staining. Fresh material suitable for staining is easily obtained with a sharp pointed knife, such as the No. 11, Bard-Parker blade. This is thrust 1 mm. through the skin and rotated. Skin shavings and perhaps a tuft of the subcutaneous tissue are scraped away, air dried on a slide and stained with Carbol-fuchsin by conventional methods. *M. leprae* bacilli are more easily decolorized than *M. tuberculosis*. Although decolorization in this case was not a problem, this possibility deserves attention.

Pregnancy in this case was clinically an aggravating feature. The progressive increase in the bacteria observed in the histological sections appeared to confirm this. Future pregnancies therefore have been discouraged, and should be discouraged until the disease is inactive.

The term leprosy continues to incite some degree of panic, although the informed public accepted the matter in this instance in a most gratifying manner. The patient continuously expressed a desire to join the ranks of "lost souls," where with aliases, hidden diagnoses, and disguised therapy the taboo might be perpetuated—a stigma that is unwarranted. The patient has been treated at Carville and returned to her rightful position in life as expeditiously as her condition would permit, open persuasion replacing force.

CHANGES OF ADDRESS

Members of the Kansas Medical Society will receive the JOURNAL and correspondence from the Executive Office promptly only if correct addresses are on file. Report changes to Kansas Medical Society, 315 West Fourth Street, Topeka, Kansas.



Therapeutics 16 B.C.—1965 A.D.

Ageless Remedies—A Historical Reminder

RALPH H. MAJOR, M.D.,* *Kansas City, Kansas*

THE PAST FEW DECADES have brought revolutionary advances in the therapy of disease. Pneumonia, a disease we battled for centuries and in the treatment of which we depended largely on the healing powers of nature, no longer is so dreaded by the physician who once estimated that one in every four of his pneumonia patients would die. Today the sulfonamides and antibiotics have so changed the picture that the teacher of physical diagnosis has difficulty in finding patients exhibiting the classic picture of consolidation of the lung in lobar pneumonia, and the dramatic clinical picture of the crisis in lobar pneumonia has been largely displaced by a lysis produced by the physician employing penicillin. Penicillin has also made obsolete the long-continued treatment of syphilis by mercury or salvarsan. When we add to this the cure of subacute bacterial endocarditis and tuberculous meningitis, the cure or arrest of pulmonary tuberculosis, we are understandably amazed at the achievements of chemotherapy and of antibiotics.

While yet a little dazed by these spectacular achievements, we must not forget that many potent remedies in our therapeutic armamentarium have proved their effectiveness for centuries and continue to be widely employed without the aid of slick paper magazines or television announcements.

Many American physicians think of disease only in the terms of diseases which they encounter in their daily practice. Malaria, for instance, is not common within the continental limits of the United States,

and to many physicians it is a disease which they may encounter in their reading but not in their practice. Yet malaria is perhaps the greatest disease killer of the human race.

We all know the story of the Spanish soldier in

The lesson to be learned from this brief excursion into the history of therapeutics is that we, as physicians, while justly proud of the new and often spectacular advances in therapeutics, should not forget that our forbears were more often than not men of intelligence and judgment and that many of the drugs they discovered and praised are still part of our therapeutic armamentarium after centuries of trial and approbation.

Peru who was cured of his chills and fever by slacking his thirst with the bitter water of a little pool in which lay a log of the cinchona tree. Since its introduction into Europe in the 17th century as the Jesuits' bark or Jesuits' powder, quinine has continued to be an important remedy for malaria, although in recent years it has had to share its one time monopoly with several synthetic newcomers. Intestinal parasites are fortunately not common in the continental United States although epidemics of amebiasis occur occasionally, and uncinariasis was until recent years a most challenging health problem in some of the

* University of Kansas School of Medicine, Department of the History of Medicine.

southern states. In tropical lands, intestinal parasites remain a serious challenge to health. Round worms (ascaris) and tape worms were common in ancient Egypt. The Papyrus of Ebers, compiled in the 16th century B.C., recommends turpentine and pomegranate to expel worms. Turpentine was used for centuries as an anthelmintic, but this use has been discontinued. Pomegranate is, however, recommended in modern treatises for the treatment of tape worms.

Theophrastos (370-285 B.C.), the pupil of Plato and Aristotle, who succeeded the latter as head of the Lyceum in Athens, composed a noteworthy work on botany. His *Enquiry into Plants* notes, "Of the male fern no part but the root is useful and it has an astringent taste. It expels the flat worm." Beckman, two thousand years later, remarked, "This agent is probably more effective against tapeworm than any of the other anthelmintics." Theophrastos' work was not only a classification of plants, an achievement that later scientists recognized by calling him the "Father of Botany"; it was also the forerunner of the herbals, which dominated medical thought for centuries.

The greatest of all the herbals was unquestionably the Great Herbal of Pedanios Dioskorides (40-90 A.D.), a Greek surgeon serving in the Roman armies of the Emperor Nero. This work, best known by its Latin title, *De materia medica*, was the standard text on the subject as late as the 17th century. Today we consider it phenomenal for a textbook to last a generation; here is one that retained its popularity for 48 generations! The work was translated into many languages, appeared in almost innumerable editions, many handsomely illustrated, and was probably written by its author while on duty in the Middle East. It deals with the preparation, storage, genuineness, dosage and effects of drugs, mainly of plant origin, but some of the mineral and of animal origin. He describes some six hundred plants, most of which can be readily identified today by his descriptions. Most of the drugs employed today in medical practice, excluding synthetic chemicals and antibiotics, were known to him. He was familiar with anesthesia and was the first medical author to employ this term in its modern sense. For this purpose, he employed wine of mandrake or mandragora by inhalation, by mouth or in an enema. For pain and to produce narcosis, Dioskorides recommends opium and hyoscine. It is interesting to note that "twilight sleep," introduced into obstetrics in 1906, employed a mixture of morphine and hyoscine. Not only does Dioskorides mention inhalation anesthesia, oral anesthesia, and rectal anesthesia but also he describes local anesthesia. This he produced by applying to the skin the stone of Memphis, composed of carbonates, which, when treated with vinegar, released carbon dioxide, producing local anesthesia. Dioskorides also

describes many cathartics still employed for the purpose, including castor oil, croton oil, aloes, and colocynth—one of the active ingredients of the time-honored Compound Cathartic Pills. Alexander Trallianus, a Byzantine physician of the sixth century, introduced colchicum in the treatment of gout. Despite the emetic effects of the drug, noted by Dioskorides and Alexander, there it still stands after 14 centuries, recommended by all textbooks. Cinchophen seemed at one time to be a formidable rival, but the later discovery that cinchophen often produced acute yellow atrophy of the liver in patients removed this potential rival from the field.

One of the most interesting anecdotes in medical history is the story about William Withering. He heard of an old woman in Shropshire who cured dropsy with a tea containing many herbs and, obtaining the recipe of the tea, surmised that the active ingredient was the foxglove. He obtained immortality by introducing digitalis into medicine. It is not often emphasized that Withering tested his infusion of foxglove in his practice for nearly ten years before the publication of his classic *An Account of the Foxglove and Some of Its Medical Uses* in 1785. It is unnecessary to stress the importance of digitalis in the treatment of heart disease.

The early Spanish Portuguese and Dutch explorers in the New World discovered many things besides rivers, mountains and bays. They discovered a new world of plants quite unknown to them, many of them possessing curative properties. One Spanish physician, Francisco Hernández, who spent seven years in Mexico, wrote a monumental work on the New World in which he described three thousand medicinal plants. It was estimated at one time that more than half of the drugs listed in the pharmacopoeas were of American origin. The best known were quinine, coca, curare and ipecachuana, all of which either in their original form or in derivatives, are still employed. The antidysenteric effects of ipecac were discovered by William Piso and described in his book on Brazil published in 1648. Today we still employ emetin, the active principle of ipecac, in the treatment of amebic dysentery. Many new cathartics were discovered by the Spanish, among them cascara sagrada (sacred bark), the name indicating the respect in which the Spanish held this drug.

The North American Indians were not as far advanced culturally as the Indians of Central and South America. Indeed, they have usually been described as living in the Stone Age when Columbus discovered America. In addition to their religious rites for the cure of disease, they had learned that certain plants had curative properties and had developed a modest pharmacopoea. In the treatment of rheumatism, which was a very common complaint, they employed in-

fusions of willow bark and wintergreen, both rich in salicylates. Salicylates were not firmly established as therapeutic agents until about 1875, and their later widespread use was undoubtedly accelerated by the introduction of aspirin (acetyl salicylic acid) in 1899. Aspirin since that time has been one of the most widely used drugs. Sydenham is quoted as remarking once that without opium no man would be callous enough to practice medicine. Today in the opinion of many, this adage could be restated, substituting aspirin for opium. With the discovery of cortisone, some enthusiasts opined that the days of aspirin were numbered. Others prudently preferred to wait and see. In 1957, a joint committee of Medical Research Council and the Nuffield Foundation reported a four years' study of 58 cases of rheumatoid arthritis, one half treated with cortisone and one half with aspirin. Their conclusions were, "Firstly the introduction of cortisone has not materially affected the prognosis of patients developing rheumatoid arthritis for the first time. Secondly, in early cases there appears to be little difference between the therapeutic effect of aspirin and cortisone, but, in the long term management of the disease, at least during the first four years, medication with aspirin is more often likely to produce satisfactory results than medication with corti-

sone." The investigators also noted that serious complications were encountered only in patients on cortisone therapy, and, while the investigators give no details regarding the comparative cost of the therapy, any physician who has purchased aspirin tablets and cortisone ampules can readily compute the price differential.

Bibliography

1. Alexander of Tralles, translated by Theodor Puschmann (German). Vienna, Braumüller, 1879.
2. Beckmann, Harry. *Treatment in General Practice*. Philadelphia, Saunders, 1948.
3. Dioskorides. *Libri octo Graece et Latine*. Paris, Haultinum, 1549.
4. Gunther, Robert T. *The Greek Herbal of Dioscorides*. Oxford, 1934.
5. Long-term results in early cases of rheumatoid arthritis treated with either cortisone or aspirin. *Brit. M. J.* 1957, Apr. 13, p. 847.
6. Major, Ralph H. *American Indian Medicine. Actas del XV Cong. Inter. de Hist. Med., II. XV Cong. Inter. de Hist. de la Méd.* [1958], 327-337.
7. Sollman, Torald. *A Manual of Pharmacology*. Philadelphia, W. B. Saunders, 1924.
8. Theophrastos. *De historia et causis plantarum Libri Quindecim*. Paris, Egidium Gourmoncium, 1529.
9. Theophrastos. *Enquiry into Plants. . . .* With an English translation by Sir Arthur Hort. London, William Heinemann, 1916. 2 v. (The Loeb Classical Library).

DEARTH OF 'DRUGS IN SEARCH OF A DISEASE'

In my opinion the predicted reduction in "public relations" drugs (those which the pharmaceutical companies kept in clinical investigation without any hope of commercial success) has indeed occurred. Also those interesting drugs that produce important pharmacological changes but have no known therapeutic use—in other words, "Drugs in Search of a Disease"—are fewer in number and more highly restricted in that fewer investigators are privileged to search for therapeutic uses. But the greatest impact is always the change in one's own research program produced by new regulations. What were these? The impact has been tremendous and has driven us to drink and chain-smoking since the use of alcoholic beverages and nicotine in clinical research have not, *as yet*, been covered by regulations.—Carl C. Pfeiffer, Ph.D., M.D., in *Journal of New Drugs*, 4:6 (Nov.-Dec.), 1964.

The President's Message

DEAR DOCTOR:

Elsewhere in the JOURNAL you will notice the program for the meeting in Hutchinson, May 10-13. The Hutchinson committee has worked hard to secure a program which we feel will be of great help to the doctors in Kansas. You will notice also that the Format Committee has changed the time for the second meeting of the House of Delegates to Thursday morning and this gives the specialty groups a chance to meet on Wednesday afternoon, with the banquet that evening. I can assure you that the banquet program will be interesting and one that you will enjoy.

I wish to take this opportunity to thank the many doctors throughout Kansas who have served so well on the many committees and to particularly thank the committee chairmen. Since this is the legislative year, it has been necessary to call on many of you to talk to your legislators and to appear before legislative committees, which you have done so well and I want to thank you for your efforts.

I will be looking forward to seeing you in Hutchinson, May 10-13.

Sincerely,

John C. Mitchell, MD

President



WELCOME TO HUTCHINSON

The Reno County Medical Society cordially invites and urges you to attend the annual meeting of the Kansas Medical Society at Hutchinson on May 10, 11, and 12.

Our program committee has arranged a program which will present a radical departure from the format of previous sessions. It is the Reno County Medical Society's desire to present as a trial venture a program oriented toward problems of greater public interest than one devoted solely to medically academic subjects. Considerable interest has already been expressed in this type program by lay people, in particular law enforcement officials, government officials, educators, and the press.

Individuals prominent nationally in penology, criminal rehabilitation, psychiatry, religion, law-enforcement, and journalism will present part of the program.

There will be a session devoted to nuclear warfare and the biological effects of radiation presented by authorities in these fields.

It is hoped that there will be a good showing of lay people at these sessions. Therefore, you are encouraged to invite your lay friends, in particular educators and science and sociology students of the high school and college levels, to attend these programs.

Sincerely yours,

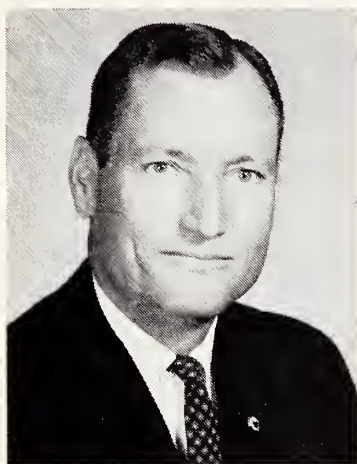
M. J. Borra, M.D.

President, Reno County Medical Society

106th Annual Session, Kansas Medical Society

Monday, May 10, through Thursday, May 13, 1965

GUEST SPEAKERS



MR. JOHN W. CRUTCHER
Topeka, Kansas

Mr. John Crutcher is serving his first term as Lieutenant Governor and presiding officer of the Senate. He previously served in the Kansas Senate from 1953 until 1957.

Mr. Crutcher was born at Ensign, Kansas, and is a graduate of the University of Kansas. He is president of the Hutchinson Investment Company, is a real estate and insurance broker and serves on the board of directors of several other small companies. He is the president of the Hutchinson Library Board and past president of a number of business and civic organizations.

A captain in the U. S. Naval Reserves, Mr. Crutcher served with the Navy during World War II and the Korean War.

Mr. Carl Spriggs is chief of police of the Hutchinson Police Department, a position he has held since 1951.

He is a graduate of the Federal Bureau of Investigation National Academy and trained in police work in the Wichita Police Department and Wichita State University from 1943 to 1951.

Mr. Spriggs is presently serving as president of the Kansas Association of Chiefs of Police. He was a member of the board of governors of the Kansas Peace Officers Association from 1952 to 1962. He is a member of the instructing staff of the University of Kansas Peace Officers Training Schools.

Mr. Spriggs is the author of several training and personnel development manuals, and in 1955 was the recipient of the Gold Seal of Progress Award, which is a national award for outstanding work in police administration.



MR. CARL L. SPRIGGS
Hutchinson, Kansas

**KARL MENNINGER, M.D.**

Topeka, Kansas

Dr. Karl Menninger is chairman of the Board of Trustees and chief of staff of the Menninger Foundation in Topeka. He was educated at Washburn University, the University of Wisconsin and Harvard Medical School, graduating from the latter *cum laude* in 1917. Following internship in Kansas City, he returned to Boston to work with Professor Ernest Southard in the Boston Psychopathic Hospital and to teach in the Harvard Medical School.

In 1920 Doctor Menninger returned to Topeka to practice with his father Dr. C. F. Menninger. Their plan to develop a psychiatric group practice or clinic was the beginning of the Menninger Foundation, a non-profit organization for psychiatric diagnosis and treatment and for education, research and prevention in psychiatric and psychological fields.

Doctor Menninger is the author of many articles and books, and holds numerous memberships in professional organizations. He is or has been a consultant to the Veterans Administration, U. S. Public Health Service, U. S. Department of Justice (Prison Service) as well as other federal and state agencies. He is a member of the Citizens Advisory Committee on Penal and Correctional Institutions of Kansas.

In 1945 Doctor Menninger worked with General Bradley, General Hawley and Doctor Blaine in the organization of the Veterans Administration training program for psychiatrists at Topeka. A similar training program was later organized at Topeka State Hospital and these two programs were affiliated with programs in other state institutions and municipal clinics as the Menninger School of Psychiatry. Since its formation it has become the largest training center for psychiatrists in the world.

**MR. BILL SANDS**

Chicago, Illinois

Mr. Bill Sands can best be described as an extraordinary man. In his lifetime he has been a prize fighter, entertainer, auto racer, corporation executive, diamond hunter, pilot, Olympic swimming coach, and a convict at San Quentin.

At 19, the have-all, but rebellious son of a politically prominent father and a socialite mother, was arrested as a "thrill bandit" and sent to San Quentin to serve three life sentences. He had been permanently removed from society—but he proved indomitable. Warden Clinton Duffy and perhaps, adversely, his cellmate Caryl Chessman, inspired him to reform. He was rehabilitated, his life sentences were commuted and he was released after three years in prison. He now devotes his life to the rehabilitation of convicts, prison reform and the combating of juvenile delinquency—all on a non-profit, volunteer basis.

Mr. Sands originated and directs Freedom House, Inc. in Kansas City, Kansas. It is a non-profit organization that conducts pre-release training classes at Kansas State Prison, teaching the men to affect the necessary changes within themselves and continuing to guide them after release. The program has won wide support among penologists, government and other leaders. Because of its unique concept and remarkable success, plans are underway to expand it nationally and overseas.

His book, "My Shadow Ran Fast" is a current non-fiction best seller. It is the story of crime and punishment, hope and rehabilitation, high adventure and excitement, and heartbreak and inspiration. It is a document—but not a preachment—of will power and faith.

**MR. JOHN McCORMALLY**

Hutchinson, Kansas

**LT. COL. DAVID C. WHITE**

Washington, D. C.

Mr. John McCormally is editor of *The News*, published by the Hutchinson Publishing Company, of which he is vice president and a member of the board of directors. His daily column "Memo from Mac" has won several awards.

Mr. McCormally enrolled in Kansas State Teachers College at Emporia in 1941, but the following year he enlisted in the U. S. Marine Corps, participating in campaigns in the Solomon Islands and Iwo Jima. After the war he reentered Kansas State Teachers College and became a reporter and editorial writer for *The Emporia Gazette*. In 1946 he served as state representative in the Kansas Legislature, continuing with college as a part-time student and receiving the AB degree in 1949. In that year he won a Nieman Fellowship to Harvard University on the basis of his reporting and editorial writing, and studied at that university for a year. He joined the *Hutchinson News* as a reporter in August, 1950, and advanced to his present position in 1963.

During the summer of 1963, with three other Americans, he conducted journalism workshops in Africa under the auspices of the African-American Institute and the U. S. State Department. He is a member of the Kansas Advisory Committee to the U. S. Civil Rights Commission.

Lieutenant-Colonel White is chief of the Radiation Pathology Branch, Armed Forces Institute of Pathology, Washington, D. C.

Colonel White received his medical degree from Duke University School of Medicine, Durham, North Carolina, in 1947. He entered the military service in 1948, after interning at Albany City Hospital, Albany, New York. From 1948 to 1950 he was on the resident staff of the Maine General Hospital in Portland.

Serving as a captain in the U. S. Army Medical Corps during 1950 and 1951, he was assigned to the 121st evacuation hospital and was regimental surgeon of the 2nd Division, 38th Regiment in Korea.

In 1951, Colonel White received training as a nuclear medical officer at Duke University and Oak Ridge National Laboratory and in 1952 entered a residency in pathology at Walter Reed General Hospital. He was certified by the American Board of Pathology in 1956, and was assigned as a research pathologist at the Los Alamos Scientific Laboratory, Los Alamos, New Mexico. In 1960 he was appointed to his present position as Chief, Radiation Pathology Branch, Armed Forces Institute of Pathology.

**MR. JIM POST**

Kansas City, Kansas

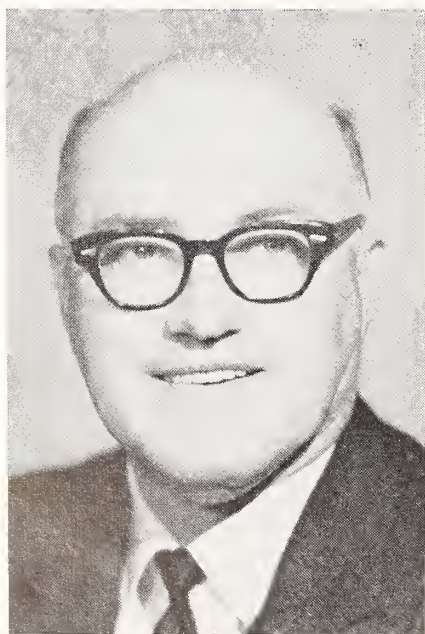
"The prison is my parish, and I don't want you or yours as my parishoners." These are the words of Mr. Jim Post who has been the protestant chaplain at the Kansas State Prison, Lansing, since 1956.

However, in January, 1965, he was granted a leave of absence for one year to act as director and fund raiser for Freedom House, Inc. in Kansas City, Kansas. Freedom House is a newly instituted program in criminal rehabilitation. It is a program of assistance toward re-entry into society offered to releasees from the state prison at Lansing.

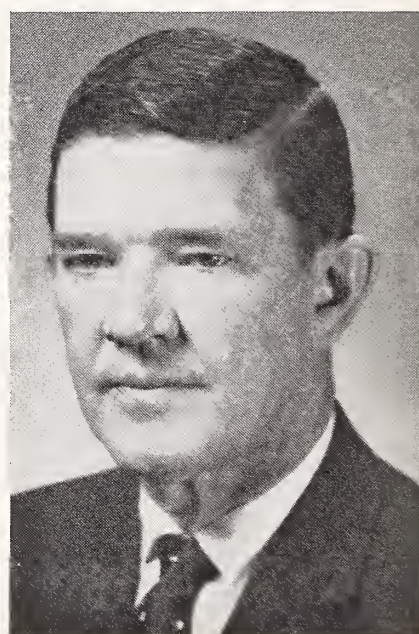
Mr. Post was ordained into ministry in the Reorganized Church of Jesus Christ of Latter Day Saints in 1942, and held three pastorates in Kansas City, Kansas, before entering the chaplaincy. He served as chaplain in World War II with the 58th Field Hospital, Third Army, in Germany.

He became engaged in prisoner rehabilitation work at the U. S. Penitentiary at Leavenworth in 1952, serving there until his appointment to the Kansas State Prison in 1956.

President and President-Elect



JOHN C. MITCHELL, M.D., *President*
Salina, Kansas



GEORGE BURKET, JR., M.D., *President-Elect*
Kingman, Kansas

Our special thanks to—

Blue Cross-Blue Shield of Kansas
Topeka, Kansas

Geigy Pharmaceuticals
Division of Geigy Chemical Corporation
Ardsley, New York

Eli Lilly and Company
Indianapolis, Indiana

Munns Medical Supply Company
Topeka, Kansas

Ortho Pharmaceutical Corporation
Raritan, New Jersey

Smith Kline & French Laboratories
Philadelphia, Pennsylvania

Wyeth Laboratories
Philadelphia, Pennsylvania

Space in Hutchinson did not permit the installation of the usual exhibits this year and the Kansas Medical Society notified all pharmaceutical and surgical supply houses of this fact. Even though they could not be with us, the above companies contributed funds for defraying the expenses of the Scientific Section of the program.

Items of Interest

- **House of Delegates**
Town Club—Monday
Baker Hotel—Thursday
- **General Sessions**
Convention Hall—Tuesday and Wednesday
- **Specialty Group Meetings—**
Wednesday Afternoon
E.E.N.T. Section
Kansas Obstetrical Society
Kansas Orthopaedic Society
Kansas Radiological Society
Kansas Society of Anesthesiology
Kansas Society of Pathologists
Kansas Psychiatric Society

SPECIAL EVENTS

MONDAY

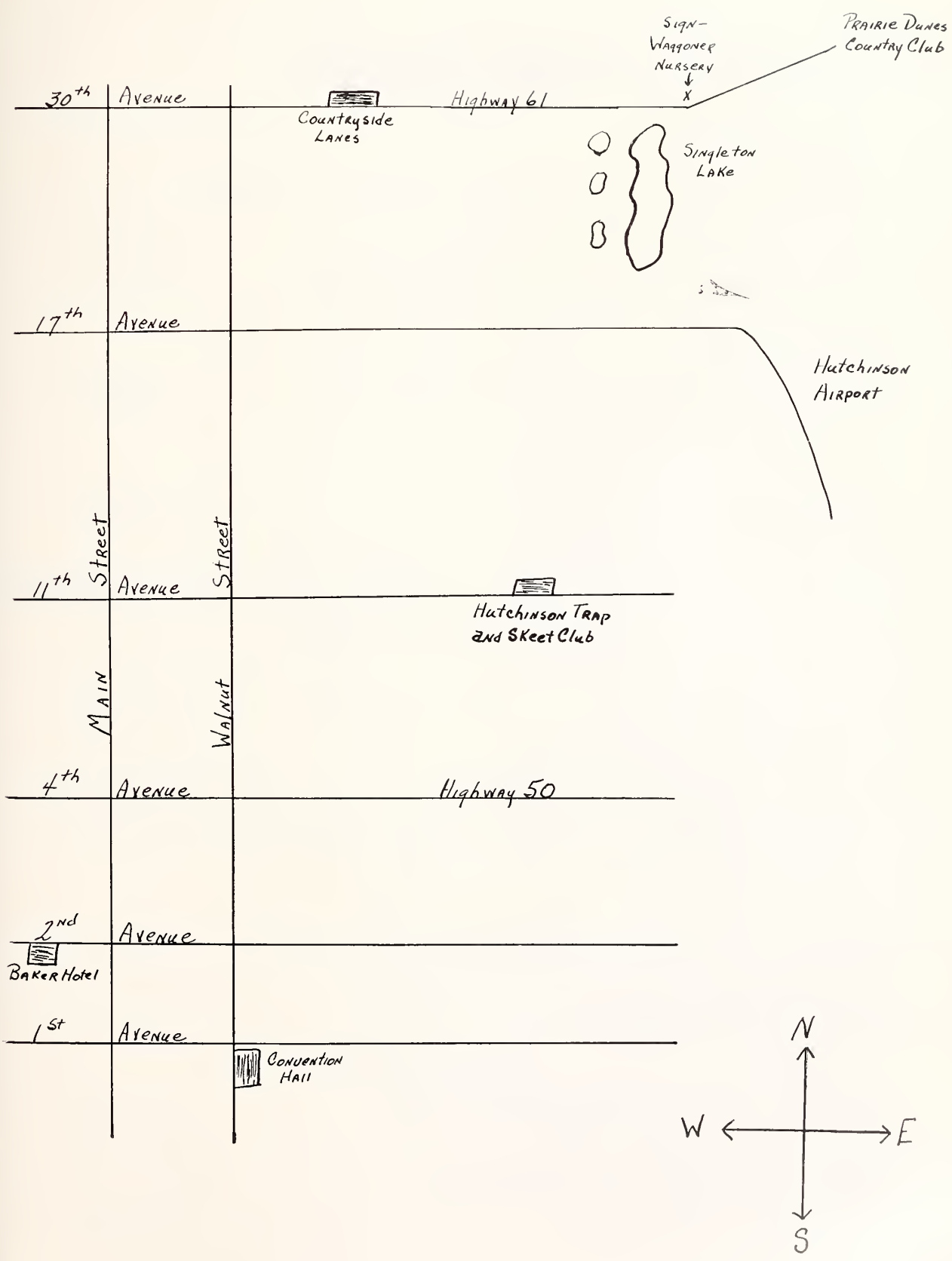
- **Sports Day**
Golfing—Prairie Dunes Country Club
Bowling—Country Side Lanes
Shooting—Hutchinson Trap and Skeet Club
Fishing—Singleton Lake
Cocktail Hour and Banquet—Prairie Dunes Country Club

WEDNESDAY

- **Reception—K.U. Medical Alumni Association**
Baker Hotel, Mezzanine
- **Annual K.M.S. Banquet—Entertainment—Dancing**
Baker Hotel, Ballroom

(see program for time schedule)

Map of Hutchinson . . .



Summaries of the Programs

Hosts for the Meetings Page 187

MONDAY, MAY 10

House of Delegates Breakfast Meeting—7:30 a.m. Page 187

Kansas Medical Golf and Skeet Shooting Association Page 187

Cocktail Hour and Sports Banquet—6:30 p.m. Page 187

TUESDAY, MAY 11

General Session—9:15 a.m. Page 188

Papers by: Mr. Bill Sands
Mr. Jim Post
Karl Menninger, M.D.

General Session—2:00 p.m. Page 189

Papers by: Mr. John Crutcher
Mr. John McCormally
Mr. Carl Spriggs

Panel Discussion: (Speakers from first and second sessions)

WEDNESDAY, MAY 12

General Session—9:30 a.m. Page 190

Papers by: Lt. Col. Edward Marks
Lt. Col. David C. White

Wednesday Evening Page 190

Reception—University of Kansas Medical Alumni—5:30 p.m.
Annual Banquet—7:00 p.m.

THURSDAY, MAY 13

House of Delegates Second Meeting—9:00 a.m. Page 191

Council Luncheon—12:30 p.m. Page 191

Specialty Society Meetings Page 192

Woman's Auxiliary to the Kansas Medical Society Page 194

Kansas Medical Assistants Society Page 195

Kansas Society of Medical Technologists and

Kansas Society of Pathologists Page 196

Hosts for Meeting

Hutchinson Physicians Arranging 1965 Session

GENERAL CHAIRMAN—HANS T. LETTNER, M.D.

PROGRAM COMMITTEE

John N. Blank, M.D., Chairman
Victor R. Moorman, M.D.
John B. Jarrott, M.D.

Monday, May 10, 1965

(A registration desk will be open at the Baker Hotel and Prairie Dunes Country Club)

HOUSE OF DELEGATES

7:30 Breakfast and Meeting
Town Club

KANSAS MEDICAL GOLF AND SKEET
SHOOTING ASSOCIATION

Thomas F. Taylor, M.D., Phillipsburg, President
Robert A. Crawford, M.D., Hutchinson, Chairman

Facilities will be available to sportsmen all day
Golf—Prairie Dunes Country Club
Shooting—Hutchinson Trap and Skeet Club
Bowling—Countryside Lanes
Fishing—Singleton Lake
(See map for locations)

6:30 Cocktail Hour—Sports Banquet—Prairie
Dunes Country Club

TELEPHONE NUMBER MO 2-9824

Convention Hall

MORNING

7:30 PAST PRESIDENTS' BREAKFAST—BAKER HOTEL 8:30 REGISTRATION—TICKETS—INFORMATION
CONVENTION HALL, LOBBY

FIRST GENERAL SESSION

George E. Burket, Jr., M.D., Kingman, presiding

9:15 INVOCATION	RESPONSE
<i>Rev. Clarence Barger, Hutchinson</i>	<i>John C. Mitchell, M.D., President</i>
WELCOME TO HUTCHINSON	<i>Kansas Medical Society</i>
<i>Mario J. Borra, M.D., President</i>	
<i>Reno County Medical Society</i>	

NEW CONCEPTS AND PROGRAMS IN THE FIELD OF CRIMINAL REHABILITATION

9:30 Mr. Bill Sands, President, Freedom House, Inc., Kansas City, Kansas 11:00 INTERMISSION

10:15 Mr. Jim Post, Chaplain, Kansas State Prison and Vice President, Freedom House, Inc., Kansas City, Kansas	11:15 Karl Menninger, M.D., The Menninger Foundation, Topeka
	12:00 ADJOURNMENT

NOON

12:30 LUNCHEON—BAKER HOTEL—FOR PANELISTS AND EXECUTIVE OFFICERS OF THE SOCIETY

TELEPHONE NUMBER MO 2-9824

May 11, 1965

Convention Hall

AFTERNOON

SECOND GENERAL SESSION

David Lukens, M.D., Hutchinson, presiding

2:45 INTERMISSION

(Cards will be given to the audience for the purpose of preparing questions to be presented to the panel during the discussion period.)

3:00 PANEL DISCUSSION—QUESTIONS FROM THE FLOOR

MR. JOHN W. CRUTCHER, *Moderator*

MR. BILL SANDS

MR. JIM POST

KARL MENNINGER, M.D.

MR. JOHN McCORMALLY

MR. CARL SPRIGGS

2:00 PRISON, PROBATION AND PAROLE

Mr. John W. Crutcher, Lt. Governor of Kansas, Topeka

THE CRIMINAL—NOT THE CRIME

Mr. John McCormally, Editor, Hutchinson

4:00 ADJOURNMENT

BEHAVIOR CONTROL AS VIEWED BY A LAW ENFORCEMENT OFFICER

Mr. Carl L. Spriggs, Chief of Police, Hutchinson

Tuesday evening is an open period. The Hutchinson private clubs will issue guest cards to physicians and their wives. These may be obtained at the door of the Town Club or the Prairie Dunes Country Club.

SPECIAL MEETINGS

Reference Committees—Baker Hotel, Mezzanine

4:00 REFERENCE COMMITTEE NO. 1

Francis Collins, M.D., Topeka, Chairman

7:30 REFERENCE COMMITTEE NO. 2

John L. Morgan, M.D., Emporia, Chairman

4:00 KANSAS CORONERS ASSOCIATION—Baker Hotel
Organizational meeting

TELEPHONE NUMBER MO 2-9824

Wednesday, May 12, 1965

Convention Hall

MORNING

8:30 REGISTRATION—INFORMATION—TICKETS
CONVENTION HALL, LOBBY

THIRD GENERAL SESSION

Hans T. Lettner, M.D., Hutchinson, presiding

INVOCATION

*Jerome S. Spitzer, M.D.
Hutchinson*

NUCLEAR WARFARE AND BIOLOGICAL EFFECTS OF RADIATION

9:30 NUCLEAR WARFARE

*Edward Marks, Lt. Colonel, MSC.
Fort Sam Houston, Texas*

10:30 THE BIOLOGICAL EFFECTS

*David C. White, Lt. Colonel, U.S.
Army, Washington, D. C.*

11:15 DISCUSSION

10:15 INTERMISSION

12:00 ADJOURNMENT

AFTERNOON

The Specialty Societies will have meetings as scheduled on page 192 of the program.

EVENING

Annual Banquet—Baker Hotel, Ballroom

5:30 RECEPTION—Hosts: K. U. Medical Alumni Association
Baker Hotel, Mezzanine
Mary Lou Joerns at the Piano Bar

7:00 DINNER—John C. Mitchell, M.D., Salina, presiding

10:00 DANCING

TELEPHONE NUMBER MO 2-9824

Thursday, May 13, 1965

Baker Hotel

MORNING

9:00 HOUSE OF DELEGATES SECOND MEETING
Baker Hotel, Ballroom

12:30 COUNCIL LUNCHEON



EXHIBITS

The Kansas Society of Pathologists and the Kansas Society of Medical Technologists will have an exhibit and give laboratory tests to physicians in the Kansas Room of the Baker Hotel. This room will be open during the day and evening on Tuesday and all day Wednesday.

The University of Kansas Medical Center will have two exhibits, one of which will be on the Distinguished Teaching Program. These will be located in the Baker Hotel on the mezzanine.

Specialty Society Meetings

May 12, 1965

EYE, EAR, NOSE AND THROAT SECTION

H. R. Draemel, M.D., Salina, President

1:30 HEARING DEFECTS IN THE KANSAS INDUSTRIAL SCHOOLS
Mr. Robert Cozad, Topeka

2:15 STATUS OF KANSAS DRIVERS LICENSURE
Robert L. Polson, M.D., Great Bend

3:00 BUSINESS MEETING AND VIEWING OF THE NEW MOBILE HEARING AND SCREENING UNIT

KANSAS OBSTETRICAL SOCIETY

Hotel Leon
Antoni M. Diehl, M.D., Kansas City, President

12:00 LUNCHEON AND BUSINESS MEETING

2:00 INDUCTION AND AUGMENTATION OF LABOR
*Phil C. Schreier, M.D.
Memphis, Tennessee*

2:45 COFFEE BREAK

3:00 (SUBJECT TO BE ANNOUNCED)
Phil C. Schreier, M.D.

TELEPHONE NUMBER MO 2-9824

KANSAS PSYCHIATRIC SOCIETY

12:00 REGISTRATION AND LUNCHEON

1:00 WELCOME

*R. E. Reinert, M.D.
Topeka, President*

A MEDICAL FORUM ON THE PRIVATE PRACTICE OF PSYCHIATRY

*Thomas F. Morrow, M.D.
Wichita, Program Chairman
F. Carter Newson, M.D.
Wichita, Panel Moderator*

*Tom Fender, M.D., Wichita
Edmond de St. Felix, M.D., Wichita
Robert R. Kitchen, M.D., Wichita
Charles Wellshear, M.D., Wichita
Dale Peters, M.D., Wichita
Wilfrid Gardner, M.D., Halstead
Jack Dunagin, M.D., Topeka
Richard Schneider, M.D., Kansas City*

The panel members will each make a brief statement about the various aspects of the private practice of psychiatry, referring to such topics as solo practice, group private practice, open and closed staff general hospital psychiatry, relationship to state hospitals and mental health treatment centers and other agencies, and the private practice of child psychiatry.

Following will be a period of audience participation, continuing to 4:00 p.m.

This program should be of interest to all physicians who agree with us that every physician has a stake in mental health programs.

4:00 COFFEE BREAK

4:20 BUSINESS MEETING

5:00 ADJOURNMENT

Specialty Society Meetings (Continued)

KANSAS ORTHOPAEDIC CLUB

Paul A. Lovett, M.D., Wichita, President

2:30 SCIENTIFIC AND BUSINESS MEETING

*Presentation of interesting cases
by members of the club*

ELECTION OF OFFICERS

KANSAS SOCIETY OF PATHOLOGISTS

Hans Lettner, M.D., Hutchinson, President

12:00 LUNCHEON AND BUSINESS MEETING

KANSAS SOCIETY OF ANESTHESIOLOGY

Hutchinson Town Club, 200 East Sherman
R. H. Robinson, M.D., Wichita, President

1:00 LUNCHEON AND BUSINESS MEETING

KANSAS RADIOLOGICAL SOCIETY

Baker Hotel, Emerald Room
R. F. Conard, M.D., Emporia, President

1:00 BUSINESS MEETING

Woman's Auxiliary to the Kansas Medical Society

May 10-12, 1965, Baker Hotel

(All activities at the Baker Hotel, unless otherwise indicated)

Monday, May 10

9:00 REGISTRATION—HOSPITALITY ROOM—EXHIBITS

12:30 PAST STATE PRESIDENTS' LUNCHEON

2:00 PRE-CONVENTION BOARD OF DIRECTORS MEETING

6:30 DINNER—Town Club

Honoring State Officers

*Mrs. David Lukens, President
Reno County Auxiliary, presiding*

Tuesday, May 11

8:00 REGISTRATION—HOSPITALITY ROOM—EXHIBITS

9:00 GENERAL SESSION

1:00 LUNCHEON—Elks Club

Honoring Mrs. W. H. Evans, National President, Woman's Auxiliary to the AMA

*Mrs. C. M. Lessenden
State President, presiding*

Style Show by Pegues

Wednesday, May 12

8:00-12:00 GOLF FOR LADIES—Prairie Dunes Country Club

9:00 REGISTRATION—HOSPITALITY ROOM

10:00 POST-CONVENTION BOARD OF DIRECTORS Meeting

1:00 SALAD BUFFET—Prairie Dunes Country Club

5:30 RECEPTION—Hosts: K.U. Medical Alumni Association

7:00 ANNUAL KANSAS MEDICAL SOCIETY BANQUET

Kansas Medical Assistants Society

May 8-10, 1965, Baker Hotel

Saturday Evening, May 8

8:00 REGISTRATION

HOSPITALITY PARTY—

*Courtesy Munns Medical
Supply Company*

Sunday, May 9

8:00 REGISTRATION

COFFEE

EXECUTIVE BOARD MEETING

10:00 CALL TO ORDER

*Mary Jo Hall, President
Kansas Medical Assistants Society*

10:05 INVOCATION AND CREED

10:10 WELCOME

*Mario J. Borra, M.D., President
Reno County Medical Society*

10:20 RESPONSE

*John C. Mitchell, M.D., President
Kansas Medical Society*

10:30 BUSINESS SESSION—ELECTION OF 1965-66
OFFICERS

12:00 PRESIDENTS' LUNCHEON

*Northwest Kansas Medical
Assistants Society*

1:30 BUSINESS SESSION RECONVENES

2:15 MEDICINE IN PUERTO RICO

*Clayton H. Diener, M.D.
Haven, Kansas*

3:15 WHAT IS FITNESS?

*Donald M. Cooper, M.D., Director
Oklahoma State University
Hospital & Clinic
Oklahoma City, Oklahoma*

6:30 BANQUET—SILVER ANNIVERSARY PARTY

*Harvey County Medical
Assistants Society*

Monday, May 10

8:00 REGISTRATION

COFFEE

9:30 CALL TO ORDER AND ANNOUNCEMENTS

*Mary Jo Hall, President
Kansas Medical Assistants Society*

9:40 GREETINGS

*Doris Hoefer, President
Reno County Medical
Assistants Society*

9:45 LABORATORY MEDICINE

*Hans T. Lettner, M.D.
Hutchinson, Kansas*

10:45 (SUBJECT TO BE ANNOUNCED)

*Floyd Wehrenberg
Professional Management Midwest
Kansas City, Missouri*

12:30 LUNCHEON

MUSICAL PROGRAM

INSTALLATION OF OFFICERS

Kansas Society of Medical Technologists

Kansas Society of Pathologists

May 13, 14, 1965, Royal Inn Motel

*(All activities will be in the Basement
Meeting Room)*

6:30 SOCIAL HOUR—BANQUET
*Gene Conklin, Vice President
Sterling College
Sterling, Kansas, speaker*

Thursday, May 13

Friday, May 14

8:15 REGISTRATION

8:15 REGISTRATION

**9:00 OPENING—INVOCATION
GREETINGS**

**9:00 JOINT DISEASES AND THEIR RELATION TO
THE LABORATORY**
*Cline Hensley, Jr., M.D.
Wichita Clinic, Wichita*

*Hans T. Lettner, M.D.
President of KSP, Hutchinson
Pat Warner, M.T.
President of KSMT, Wichita*

9:30 PULMONARY FUNCTIONS AND TESTS
*Curtis C. Drevets, M.D.
Wichita Clinic, Wichita*

10:00 COFFEE—VIEW EXHIBITS

10:15 COFFEE—VIEW EXHIBITS

10:15 THE BILIRUBIN STORY
*D. B. Morrison, Ph.D., Director
Clinical Chemistry Laboratories
University of Tennessee, Memphis*

**11:15 NEW CONCEPTS OF BLOOD FORMATION AND
DESTRUCTION IN TERMS OF ANALYSIS
OF PERIPHERAL BLOOD SMEAR**
*Matthew Block, Ph.D., M.D.
University of Colorado
Medical Center, Denver*

11:15 NEONATAL HYPERBILIRUBINEMIA
*C. F. Orthwein, Jr., M.D.
Hutchinson Clinic, Hutchinson*

**12:00 LUNCHEON FOR MEDICAL TECHNOLOGY
STUDENTS ONLY—FOLLOWED BY A
SEMINAR BY STUDENTS FROM THE
STATE MEDICAL TECHNOLOGY SCHOOLS**

12:00 LUNCHEON

1:15 INTRAUTERINE TRANSFUSIONS
*L. S. McGoogan, M.D.
Swanson Professional Center, Omaha*

**1:15 Kenneth D. Weide, D.V.M., Director
College of Veterinary Medicine, Kan-
sas State University, Manhattan**

2:30 COFFEE

4:00 ADJOURNMENT

2:15 ANNUAL BUSINESS MEETING—KSMT

*** Indicates openings on the program yet to fill.

Parliamentary Procedure

A Guide to Govern Deliberations in the House of Delegates of the Kansas Medical Society

MAURICE M. TINTEROW, M.D., Wichita, Parliamentarian

MANY OF THE DELEGATES from the component societies of the Kansas Medical Society are unprepared for engaging in the deliberations of the House of Delegates. We are all not expert parliamentarians, nor have we specialized in parliamentary procedure. Usually we are not interested in participating in the business affairs of an organization. It is with this thought in mind that the following Rules of Order are written. I hope that it will be a help and will govern deliberations of the House of Delegates and its committees. This article will be divided into three sections: (1) Rules of order for the meetings of the House of Delegates; (2) A guide for conduct of Reference Committees, and the correct forms of introducing resolutions, and (3) Your parliamentary rights and how to exercise them.

RULES OF ORDER

I. Purpose

Section 1.01. These Rules of Order are set forth to govern the deliberations of the House of Delegates and its committees.

II. Meetings of the House of Delegates

Section 2.01. The House of Delegates shall meet as required in the By-Laws of this organization, provided, however, that there shall be at least a minimum of two meetings at each session separated by at least 24 hours.

III. Subsidiary Committees

Section 3.01. Credentials Committee.

Section 3.011. The Credentials Committee shall examine the credentials of all who seek admission to the House of Delegates, and rule on the seating of all members and proposed substitution of others for absentees. All those whose credentials are found to be in order shall be registered and seated as official members of the House of Delegates. Any member of the Society registered for the Annual Meeting may be admitted to the visitors' section, within limits of space.

Section 3.012. An appeal from any ruling of

the Credentials Committee may be entered by the individual whose credentials are in question or by any voting member in his behalf. Such appeal must be entered immediately following the report of the Credentials Committee to the House that a quorum exists and a majority vote by the House of Delegates will decide the issue.

Section 3.013. The Credentials Committee shall designate one of its members to act as Sergeant-at-Arms to act under the direction of the President to insure that all members are properly seated and to carry out the will of the House in the preservation of order.

Section 3.014. The Credentials Committee shall report to the House when requested by the President, on the following:

(a) Total number of members of the House eligible to vote at this session.

(b) Number of such members registered and officially seated.

(c) Announcement of quorum.

(d) Announcement of Sergeant-at-Arms.

Section 3.02. Reference Committees.

Section 3.021. The following Reference Committees shall be constituted for each session of the House of Delegates for the purpose of considering those items which are referred to them:

(a) Reference Committee Number 1 for those resolutions bearing even numbers.

(b) Reference Committee Number 2 for those resolutions bearing odd numbers.

Section 3.022. Within six days after receipt of a list of items of business to be considered at the next session of the House of Delegates, the President shall recommend through the Executive Office that such additional Reference Committees shall be constituted as, in the judgment of the President, appear to be necessary for the most effective handling of the business to be introduced.

Section 3.023. The President shall appoint the personnel of each Reference Committee as will insure that such committees will be fully constituted at least ten days prior to the first meeting of the House of Delegates.

Section 3.024. No Reference Committee shall consist of less than five nor more than seven members, each of whom shall have been members in good standing of the Kansas Medical Society for at least five years, except that the President may designate technical or consultatory assistants in excess of that number. Such assistants need not be members of this Society and shall act solely in an advisory capacity and be without vote.

Section 3.025. The duties of the Reference Committees shall be:

(a) To hold open hearings on all items of business which have been referred to it, at such time and place as shall have been announced at the first meeting of the House of Delegates.

(b) To deliberate in closed session on each item of business which has been referred to it, and after full consideration to make a recommendation as to its final disposition in the House.

(c) To prepare a written report for the second meeting of the House of Delegates presenting its recommendations on each item of business which has been referred to it.

Section 3.026. In its hearings, deliberations and recommendations each Reference Committee shall be guided by and shall adhere to the provisions set forth in "Guide for Conduct of Reference Committees."

IV. Order of Business

Section 4.01. First meeting of the House of Delegates.

Section 4.011. At the first meeting of the House of Delegates, all items of business which have been published in the official publication of this Society shall be introduced by title, and referred without debate or action to an appropriate Reference Committee, except as otherwise stipulated in these Rules of Order.

Section 4.012. All other items of business which have not been previously published and distributed to the members of the House shall be read in full, unless in the opinion of the President, concurred in by the House, it is considered desirable to introduce it in an abbreviated form.

Section 4.013. Proposed amendments to any reports or any other items of business which have been introduced may be entered immediately following the introduction of the item to which it refers or under "New Business." Such proposal shall be in writing, and shall not be debated nor acted upon at the first meeting, but shall adhere to the item of business to which it pertains.

Section 4.014. The Order of Business at the First House of Delegates shall be: (unless other-

wise ordered by a two-thirds vote of the delegates present)

1. Registration of delegates, ex-officio members and visitors.

2. Call to order by the President.

3. Announcement of the number of delegates, ex-officio members present and registered, and the presence of an official quorum.

4. Nominations from the floor for each elective office and a ballot vote where three or more candidates have been nominated for one office.

5. Reading of the minutes of the last or any special meeting.

6. Report of Reference Committee on reports printed in the JOURNAL with details of recommendations and resolutions therein requiring action by the Society.

7. Supplemental reports from committees or officers.

8. Report of the Executive Secretary.

9. Report of the Treasurer.

10. Unfinished business.

11. New business and resolutions offered.

12. Address of the President (if desired).

13. Address of the President-Elect (if desired).

14. Announcements—to include time and place of Reference Committee meeting, names and districts of expiring councilors' terms and to include naming of the two candidates nominated for each contested elective office.

15. Adjournment to reconvene at the second meeting.

Section 4.02. Second meeting of the House of Delegates.

Section 4.021. At the second meeting of the House of Delegates, the House will receive the full report of each Reference Committee on all items of business which were referred to it at the first meeting of the House.

Section 4.022. Each item of business so reported upon shall be subject to full debate, amendment, and any action which the House desires to take upon it, except that any item which has previously been accepted for a first reading may not be amended to any degree that materially alters the original intent of the item.

Section 4.023. No item of business may be considered at the second meeting of the House unless it was introduced at the first meeting and referred to a Reference Committee except as provided for in the By-Laws.

Section 4.024. If a Reference Committee fails to submit a report at the second meeting of the House upon any item which was referred to it at the first meeting, such item may be placed before the House by the President, and must be so placed upon request of any member of the House.

Section 4.025. The order of business at the second meeting of the House of Delegates shall be:

1. Registration and seating of delegates, ex-officio members and visitors.
2. Call to order by the President.
3. Election of officers (by ballot): President-Elect, First Vice President, Second Vice President, Constitutional Secretary, Treasurer, Delegate-Elect and Alternate to the American Medical Association.
4. Report of secondary meeting of Reference Committees.
5. Unfinished business.
6. New business.
7. Election of Councilors for expired terms by caucus of delegates present from the respective districts.
8. Announcements of Councilors elected and meeting place of the Council.
9. Installation of the new President.
10. Adjournment.

V. Motions

Only members of the House of Delegates are privileged to make any motions, except that a duly appointed chairman of any Reference Committee or of any Standing or Special Committee of the Kansas Medical Society may make motions pertaining to any matter which has been referred to or considered by his committee, whether he be a member of the House or not, and further, except that any member of a Reference Committee, other than advisory members, may make motions incident to the introduction of and debate on minority reports.

Section 5.02. All resolutions shall be submitted in writing.

Section 5.03. The President may, at his discretion, direct that complicated motions or amendments be submitted in writing.

Section 5.04. A motion to take any tabled motion from the table is in order either during the same session at which it was tabled or during the next session, even if the sessions are held no oftener than annually. In this reference the term "session" shall be understood to include the total number of meetings which are held between the initial convening of the House of Delegates and its final adjournment.

VI. Debate

Section 6.01. Discussion and debate on any matter before the House shall be carried on according to standard parliamentary procedure as outlined in the official parliamentary authority of this Society.

Section 6.011. Any voting or non-voting member of the House of Delegates has the right to discussion of any matter before the House.

Section 6.012. Any duly appointed member of a Reference Committee shall be accorded the privilege of discussing any matter which was considered and is being reported by his committee. This same privilege of discussion and debate shall be extended to the chairman of any duly appointed Standing or Special Committee of the Kansas Medical Society on those items which have been under discussion by his committee.

Section 6.013. Any consultative advisor or technical assistant shall be accorded the privilege of discussing any matter before the House, if invited by the President, or if such request is made by any member, provided, however, that this privilege may be denied such individual by a motion duly entered and passed by a majority of the voting members of the House.

Section 6.02. The President shall be granted the floor without regard to the customary limitations of debate, insofar as this can be done without depriving any other member of his parliamentary rights, and further provided that the President shall be bound by the usual rules of parliamentary decorum, and he shall be subjected to any rules to limit debate which are in effect at that time.

VII. Voting

Section 7.01. Voting shall be carried on according to standard parliamentary procedure as outlined in the official parliamentary authority of this Society.

Section 7.011. The method of voting shall be at the option of the President, except when the method is stipulated in the By-Laws of this Society or the House adopts a motion to vote in a specific way. The President shall state the method of voting when the question is put to vote.

Section 7.012. If the President is in doubt as to the outcome of the vote, he shall call for a retake by some method which will indicate the exact number voting on each side. Likewise, and under the same circumstances, any voting member of the House may request that a retake vote be made.

Section 7.013. A vote offered by proxy or by mail shall not be considered valid except when so stipulated in the By-Laws.

Section 7.014. The Secretary may be instructed by the House to cast a single ballot on either side of the question, but a motion to "cast a unanimous ballot" shall not be in order.

Section 7.02. If any election to an office results in a tie vote, the winner shall be determined by drawing lots.

VIII. Appeals, Challenges and Claims of Illegality

Section 8.01. An appeal, challenge or claim of illegality may be entered only by voting members of the House, except that an appeal from a decision of the Credentials Committee may be entered by the individual whose credentials are in question.

Section 8.011. Appeals from a decision of the chair must be raised immediately after the decision is rendered and before other business has intervened.

Section 8.013. All other appeals, challenges or claims of illegality must be raised at the same session at which the action under question occurred.

IX. Unanimous Consent

Section 9.01. The House may, by unanimous consent, grant any motion, action, or request which is not in violation of any provision in the By-Laws of the Kansas Medical Society even if such action is adjudged to be out of order according to the official parliamentary authority of this Society, or these Rules of Order.

X. Amendment and Suspension

Section 10.01. These Rules of Order may be amended, or any provision thereof temporarily suspended by a two-thirds majority vote of the House of Delegates at any legal meeting of the House.

Section 10.02. No provision of the Rules of Order shall be effective and no amendment to nor suspension of the provisions thereof shall be permitted if such provision or action is in violation of the By-Laws of the Kansas Medical Society, or the laws of the State of Kansas.

XI. Parliamentary Authority

Section 11.01. The latest edition of *Robert's Rules of Order* shall govern all matters not covered by the Rules of Order or the By-Laws of this Society.

Section 11.02. Those situations not so covered shall be decided by the Parliamentarian of the House of Delegates, with the consent of the House of Delegates.

A GUIDE FOR CONDUCT OF REFERENCE COMMITTEES

Each item of business properly introduced into the House of Delegates must be considered by the House of Delegates for their determination. Proper procedure requires that all items be adequately studied and discussed. However, the agenda is increasing. Therefore, it becomes impractical to debate fully on

the floor of the House of Delegates each item submitted. In addition, only members of the House of Delegates have voice in the assembly. This may have an effect of depriving members of the Society (not members of the House of Delegates) an opportunity to be heard.

For these reasons, the Reference Committee system has been established and has been adopted. Considerable responsibility and authority is delegated by the House of Delegates to the Reference Committees. All matters introduced into the first meeting of the House of Delegates are referred by the President without debate to a Reference Committee for their consideration. All items which are related by factual content, policy, or procedure, are given to one committee if this is at all possible. Upon the committee members rests the responsibility to thoroughly familiarize themselves with the items appearing on their agenda by seeking all available factual information, by seeking opinion of the membership and, if necessary, by seeking expert advice.

During the first meeting of the House of Delegates, the President refers to Reference Committees each item of business introduced during this meeting. No debate upon the merits is permitted at this time. Instead, all members of the Kansas Medical Society, including those sitting in the House of Delegates, are encouraged to direct their comments, facts, and arguments to the Reference Committee handling this particular item of business. The Reference Committee is the sounding-board of the Society and of the House of Delegates. The committee is composed of members who represent the various geographic areas, who are generally familiar with the business at hand, and who will be objective in their approach to the issues. The House of Delegates imposes upon them the duty and the responsibility to act in their stead and to hear all testimony, to develop all facets of the problem, and to render their considered opinion on all matters of business so referred. In the past, Reference Committees have functioned very well indeed. As a result, reports of the Reference Committees frequently have been adopted as the action of the House of Delegates.

Orientation Session

At the published time, following the first meeting of the House of Delegates, the orientation session of the Reference Committees will be held under the chairmanship of the Parliamentarian of the House of Delegates. This orientation meeting is conducted for the benefit of the Reference Committee members. The Parliamentarian will outline Reference Committee procedure, duties and conduct. The Executive Secretary will distribute a copy of all the pertinent files of the subject matter under discussion. A general question and answer period will follow.

Closed Session

Following the orientation meeting, the Reference Committees shall meet in closed session in prearranged hearing rooms. At this time the chairman shall review with his committee all items on the agenda to familiarize the committee with the agenda to determine what facets of the problem remain undeveloped; to determine effects of the anticipated action upon the Society. Only members of the committee shall be permitted to attend this closed session. However, the Parliamentarian shall be available to determine any procedural questions. Should other technical assistance be needed, the Executive Secretary will arrange such counsel.

Open Hearings

The Reference Committee must hear all members of the Society who wish to appear before the committee on any matter of business on the committee agenda. However, it remains the prerogative of the chairman of the committee to set time schedules of hearings. All members seeking an opportunity to be heard must abide by such posted schedule of hearing. Having been notified by such posted schedule, it becomes the obligation of the member to make himself available to testify before the committee at the proper time. However, subject to the discretion of the chairman, testimony can be heard out of order. Thus, the democratic system is preserved and a planned committee schedule maintained.

The committee may seek or hear testimony of non-members, if, in the discretion of the chairman, such information is pertinent and necessary for the committee members to reach an informed opinion concerning a question before it. However, certain limitations should be exercised by the chairman in this regard. Should exhaustive and detailed investigation be required to secure necessary facts, it may be presumed by the Reference Committee that more information should have been submitted with the resolution. In such case, the item may well be reported to the House of Delegates with a *Motion to Defer*.

During the open hearings of the Reference Committees, parliamentary rules should be adhered to only to the extent necessary to maintain order and insure a hearing for everyone who wishes to be heard. However, the chairman must maintain control over the conduct of the proceedings. The testimony and discussion should be germane to the facts at issue but considerable latitude may be tolerated at times. Members of the committee should be encouraged to participate in the discussion. They must remain at all times as objective as possible and pose questions in language to elicit witness opinion and/or additional pertinent facts. However, committee members must

not enter into debate with other committee members or Society members appearing before it. Hearings are for benefit of the Reference Committee and not for the purpose of influencing those who testify before it. While strict parliamentary procedure should be discouraged, it is incumbent upon the chairman to maintain decorum during proceedings and encourage full discussion of the business at hand.

Executive Session

After all witnesses have been heard, the Reference Committee will enter executive session. At this time, members of Reference Committees consider and weigh all the testimony of the open hearing. Finally, the Reference Committee, through its chairman, reports back to the House of Delegates findings on all questions referred to the Reference Committee for consideration with specific recommendation. When this report is read to the House of Delegates by the chairman of the Reference Committee, the chairman will, upon his own motion, move the adoption of the report. It will be presumed that the committee seconds the chairman's motion.

YOUR PARLIAMENTARY RIGHTS AND HOW TO EXERCISE THEM

The following is presented with the sincere hope that it will enable each member of the House of Delegates to fully understand the proceedings of a parliamentary body and thus feel more at home participating in its deliberations. The member who understands these mechanical processes is in a good position to influence legislation to his liking.

General Consideration

An informed delegate with a minimum working knowledge of parliamentary procedure has it within his power to introduce new items and to pass, amend, defeat, table, postpone, and recommit any item before the House if he knows what motions to make and when to make them and can muster enough support to provide the necessary majority when the vote is taken. Under certain circumstances he may bring about reconsideration or even revision of legislation which has already been legally adopted. Control of the House lies in three areas, the MOTION, the DEBATE, and the VOTE.

The Motions

A. The Main Motion—through which all business is introduced in the House.

1. Only one may be under consideration at any given time.

2. Any member may make the second.
3. Subject to motions to amend, table, postpone to a certain time or indefinitely, to refer to committee, and yields, to all except another main motion.

Form: "I move that. . . ."

B. To Amend—by which main motions are altered to better suit the desires of the House.

1. Any number may be proposed except that no more than two may be under consideration at any one time.

2. The second amendment may apply either to the first amendment or independently to the main motion.

3. Amendments may be proposed to add, strike out and insert, substitute or divide.

4. An amendment cannot be tabled, postponed or referred separately from the main motion to which it applies.

5. Long or complicated amendments should be proposed in writing.

Form: "I move that we amend the motion by. . . ."

C. To Table—by which consideration of a motion is delayed.

1. Never qualify a motion to table. It cannot be tabled "until some other event has occurred" or "until next meeting." Qualifying phrases strip this motion of its rank or precedence.

2. Takes precedence over all subsidiary motions.

3. Cannot be debated or amended but must be voted upon as soon as put.

4. If defeated it may be renewed only after additional discussion has changed the situation which existed when it was defeated.

5. If the motion is passed, the item to which it applies is automatically removed from further consideration together with all the motions which apply to the item tabled.

6. A tabled motion remains tabled until a motion to "take from the table" is passed by the House. Such motion is in order any time in the "same" session (only after business has intervened) or at any time in the "next" session (next year).

7. A motion may be delayed but kept alive indefinitely by voting to table year after year but will automatically die unless such motion to table is renewed at each subsequent session.

Form: "I move that this (motion, resolution, etc.) be tabled."

D. To Postpone—by which further consideration of an item is postponed to a specific time, or in-

definitely (depending upon the wording of the motion). All motions to postpone are debatable.

1. To postpone to a "certain specified time":

- a. To a later time at the same session. (It is then a special order of business.)

- b. To the next regular session (automatically taken up under "unfinished business").

- c. To a meeting to be held before the next regular meeting.

- d. Cannot be "postponed to a definite time" beyond the next regular session.

- e. But can be postponed an indefinite number of times and thus be kept alive.

Form: "I move that consideration of this motion be postponed until . . ."

2. To postpone indefinitely:

- a. If passed the effect will be to kill the item for that session, and it stays dead unless reintroduced at a subsequent session.

- b. Any item of business which is killed in one session (or dies automatically) may be reintroduced at a subsequent session because one House cannot irrevocably bind a subsequent House to any course of action.

- c. A motion which is postponed indefinitely cannot be further considered at the same session unless the House votes to consider the "motion to postpone indefinitely."

- d. A motion to postpone indefinitely automatically opens up the main motion to debate. The motion to postpone and the merits of the main motion can then be debated concurrently.

Form: "I move that consideration of the motion be postponed indefinitely. . . ."

E. To Refer a Recommit—by which items are referred to a committee for further study and subsequent report before being considered further.

1. If no standing committee exists, motion should be clear as to:

- a. Size and constitution of committee.

- b. Who appoints the committee (President or House).

- c. What authority the committee has.

- d. When it shall report.

2. If a standing committee does exist, the House may still refer the item to another committee if by a two-thirds vote they remove this item from the jurisdiction of the standing committee.

3. The membership of such committees must be named before adjournment unless by unanimous consent the House grants the privilege of deferring such appointments to a subsequent time.

Form: "I move that this motion be referred to

the committee (or a new committee) of _____ to be appointed by the President (or by the House by nominations from the floor) for further study and report at the next meeting (or with authority to act in the interim).

F. To Reconsider—by which motions previously adopted may be reconsidered.

1. Must be moved by the one who voted on the prevailing side (if the vote was by ballot, his right to move reconsideration may be challenged in which case it will be decided by the House).

2. Any member may second the motion.

3. Any main motion which has been previously adopted or defeated may be reconsidered unless in the meantime the action has been carried out.

4. A motion to reconsider may be proposed only "on the same day" or the "very next day." (Thereafter the motion is "to rescind.") It can be proposed immediately after the results of the vote on the original main motion is announced or at a later time within the above limits.

5. It cannot apply to motions to adjourn, suspend the rules or to table.

6. No question can be twice reconsidered.

Form: "I move that we rescind the motion that. . ."

H. Withdrawing a Motion

1. A motion or its second may be withdrawn by its maker at any time before it is stated by the Chair.

2. It may also be withdrawn after being stated by the Chair up to the time a vote is taken, PROVIDED no one objects to its withdrawal.

3. In case there is an objection, the privilege of withdrawal is decided by a vote of the House.

Form: "I wish to withdraw the motion just made."

The Rules of Debate

1. Time limit for each speech is ten minutes, except that:

a. Any member may talk more than ten minutes if no one objects, unless the House has voted (two-thirds) to limit debate.

b. The House by two-thirds vote may overrule an objection and extend the time to any member.

2. Each member has the right to speak once on each issue unless the House has voted (two-thirds) to limit debate.

3. Each member is entitled to speak a second time on the same issue unless some other member actually rises to claim the floor in which case he

must yield to one who has spoken less times than he has.

4. A member may speak more than twice on any subject unless objection is raised.

5. One who makes a motion can vote against it but he cannot speak against it.

6. Discussion and debate are not in order at the first meeting of the House. Amendments and other motions affecting legislation introduced at that session will be in order at the second session.

7. The rules of debate may be altered by adoption (two-thirds vote) of any of the following appropriate motions:

a. "I move that each of the members be limited to (or granted) _____ minutes debate on the motion before the House."

b. "I move that the House limit the number who can speak on the motion before the House to _____ for and an equal number against."

c. "I move that debate be automatically closed at _____ o'clock and that each member be granted _____ minutes."

d. If it is desirable to cut off further debate and force an immediate vote on any motion make the following motion:

"I move the previous question." This has the effect of stopping all debate instantly until a vote is taken on the motion for "previous question." If this motion is adopted, an immediate vote must be taken on the motion under discussion. If lost, the debate may resume where it left off.

NOTE: Any of the above motions may be made at any time during debate provided it does not interrupt a speaker.

Only the motion "to table" takes precedence over them.

The Rules of Voting

1. If the question under vote is not clear you should request, "Will the Chair please restate the motion?"

2. The following are common acceptable methods of voting:

a. By voice—Inaccurate for close votes.

b. By hand—More accurate a count and should be used for close votes.

c. By rising—More accurate to count and should be used for close votes.

d. By secret ballot—Must be used wherever called for in By-Laws and should be used whenever disclosing one's vote would cause pain or embarrassment.

3. Any member who is uncertain of the accuracy of a voice vote should call out without rising, "I doubt the vote." This should be done immediately

after the Chair has announced the results (not before). The Chair will then take the vote again by hand or by rising.

4. In case of a tie, the motion is lost except on a vote to sustain the decision of the Chair (on an Appeal). A tie vote sustains the decision.

5. The House, by majority vote, or silent consent, may direct that a vote be taken by secret ballot or by roll call. Such a motion may be entered by any member.

6. Anyone may change his vote up to the time the Chair announces the final result by rising and stating his desire to change his vote.

Miscellaneous Information

1. At the first meeting of the House, all business is introduced and referred without debate or action to an appropriate committee.

2. At the second meeting the Reference Committees present their reports and all items are subject to debate and final action. New business may be introduced only with the consent of two-thirds of the House by vote.

3. The House may vote to suspend the rules by a two-thirds vote, except that By-Laws cannot be suspended even by unanimous consent.

4. Any member may rise to a point of order by which he questions the legality of any procedure or challenges the ruling of the Chair. The Chair may rule on the point of order or submit it to vote (majority). A point of order must be raised at the time of the violation of procedure and is out of order after other business has intervened.

5. Any decision or ruling of the Chair involving opinion or judgment may be appealed by any member who rises to a point of order and states, "I appeal from the decision of the Chair." The House then votes to sustain or overrule the decision. Appeals cannot be made on decisions based on established facts or accepted rules.

6. Any motion, act or request may be granted by the House by unanimous consent if not in violation of the By-Laws. One single objection by a voting member destroys unanimous consent.

The following are the most commonly used mo-

tions listed in order of their rank. By "rank" is meant that when any one of the following motions is under consideration of the House, it is in order to propose any motion listed above it while those below are out of order.

The Privileged Motions:

1. Fix a time to which to adjourn
2. Adjourn
3. Recess
4. Raise a question of privilege
5. Call for orders of the day

The Subsidiary Motions:

1. Lay on the table
2. Previous question
3. Limit, or extend, debate
4. Postpone to a certain time
5. Commit or refer
6. Amend
7. Postpone indefinitely

The Principal Motions:

All main motions, resolutions, etc., which are proposed by a member of a committee.

Conclusions

The best place to influence legislation is at the hearings of the Reference Committees. These hearings are held to give each member an opportunity to express his opinion more informally.

Next: Become familiar with the material under consideration. Learn and apply the rules, principles and procedures of parliamentary practice above and if your proposal fails to pass, it will be because you were unable to convince enough people you are right.

There are many more motions and rules governing their usage and good parliamentary procedure. For further reading you are referred to:

Revised Edition
Robert's Rules of Order
by General Henry M. Robert
Scott, Foresman and Company
Chicago, Illinois



Councilor Reports

Activities in the Councilor Districts of Kansas

SECOND DISTRICT

Medicine in the Second District of the Kansas Medical Society has proceeded during the past year without major event.

We have, however, had to recognize the earnest desire of our part time executive secretary for the past many years to retire. Consequent to this, a committee has been formed which is investigating the feasibility of employing a full time executive secretary. They are finding the void that will be left by the departure of Miss Agnes Burns will be a hard one to fill.

As this is written, the groundwork for the program "Sabin on Sunday" is being laid. Wyandotte County is cooperating with the Greater Kansas City Area Medical Council in having a mass area-wide Sabin polio immunization program on March 28, 1965. This will be followed by a subsequent repeat dose late in May.

We have been fortunate in having a significantly greater attendance at the society meetings during the past year. The programs have been very good, and so far this year 1965 portends to be another year of increased activity and interest.

JAMES G. LEE, M.D., *Councilor*

THIRD DISTRICT

There have been no major problems affecting the Third District this year. The councilor has helped the component societies in administrative matters such as submission of coroner panels to the district court.

The councilor has appreciated being of service to the district.

DAN L. BERGER, *Councilor*

FOURTH DISTRICT

To date, the Fourth Councilor District has had no activities, made no decisions and done no business since the state meeting in May, 1964, with the exception of being represented at the two Council meetings in October, 1964, and January, 1965.

HENRY K. BAKER, M.D., *Councilor*

FIFTH DISTRICT

The Fifth Councilor District had no major problems during the past year. Except for the one county society which has no formal meetings, your councilor met with each component society at least once. This county group was contacted informally several times during the year, but indicated there were no problems for the council in their area.

The councilor's dinner meeting was held in Manhattan during October and was very successful because of the excellent attendance by the physicians and the very fine work by the auxiliary in the host county.

The Riley-Geary County Blue Cross-Blue Shield plan was made available to the public early this year and represented an immense amount of work by the bi-county committee and the local Blue Cross representatives.

Our area is still not over populated by physicians despite many attractions within the district. It has been a privilege to serve as your councilor this year.

ALEX SCOTT, M.D., *Councilor*

SIXTH DISTRICT

I wish to take this opportunity to thank the members of District Six (Shawnee County Medical Society) for their help and confidence during the past year. This has been an eventful year in many respects. We have accomplished much that needed to be done but have not accomplished all that we had hoped.

Our society has had the usual regular monthly meetings. The programs have been quite interesting and stimulating. They are varied enough to be of value to all specialties and there has been a good attendance.

Many new members have been added to the rolls and our summary of membership follows:

Active members	196
Fellowship members	5
Associate members	6
Resident members	6
Emeritus members	8
Deceased members	9

A joint meeting with the Bar Association was held

in December. The topic for discussion was "Capital Punishment." The meeting was well attended by both professions and an interesting discussion was held.

The society cooperated with the Menninger Foundation who presented a postgraduate course in psychiatry for the practicing physician. A number of the members took advantage of this course and there were many favorable comments about it.

Speakers were furnished by our speakers committee for many public and lay organizations when they requested such speakers. We feel that this is a good public relations service to our community.

One of the special assessments of our society was for AMA-ERF.

There was still considerable discussion about the OAA and MAA programs but no definitive action was taken.

One of the recreational activities of the society was the annual picnic with the auxiliary in June. Another was the annual interprofessional sports day at which the doctors, pharmacists, dentists and detail men held a golf and sports day followed by a stag dinner.

The society, the Kansas Farm Bureau, and the County Health Department sponsored a Health Day in the fall of last year. This was an open meeting for the public. The program was based on a discussion concerning the value of the annual physical examination and what could be expected from the proper use of such an examination. Following the introductory remarks a panel of five physicians responded to questions from the audience.

Another joint meeting with the auxiliary had as its program "Project Concern." This was an explanation of a health service that is being offered in Hong Kong sponsored by voluntary contributions.

Many of our committees have been active in the work of the community. These include the school health committee, speakers committee and the legislative committee. This latter committee has done a great deal of work in attempting to give our legislators the opinions of the medical society particularly as they relate to matters pertaining to health.

The members of the society have been active in a recent bond drive conducted by St. Francis Hospital for a major expansion of the present facilities.

Our society, through its civil defense committee, cooperated with both St. Francis and Stormont-Vail hospitals in mock disaster exercises. These turned out to be very educational and helpful and if a disaster should happen, I'm sure we would be better able to do the community a great service.

The Stormont Medical Library is functioning well, due primarily to the efforts of this committee of our society. More references are being added continuously and there are increasingly more requests from outside sources for use of the reference material available.

Our society has as another of its services the sponsorship of the annual Science Fair in Topeka. The membership has assessed itself an additional amount, as well as giving much in time and effort, to make this fair the success it is.

Today's Health is placed in all public and parochial schools as well as in both Stormont-Vail and St. Francis hospitals by action of our society.

The medical society cooperated with the Shawnee County Health Department in dedication services of the new county health building in September of 1964.

One of our members, Dr. James A. Farley, was elected to membership in the "85-50 Club" of our Society. Membership in this society is achieved by reaching age 85 or having been in practice for 50 years.

Our auxiliary has been quite active as well and some of the projects include a legislative coffee given on February 1, 1965, with the Governor's wife as the guest of honor, the wives of the Supreme Court Justices and the wives of the Legislators; the Mardi Gras Ball given in February, the proceeds of which were sent to AMA-ERF; collecting drug samples for shipment overseas to be used in voluntary health missions; and on April 3 of this year "Doctor's Day" will be celebrated by a joint meeting of the medical society and the auxiliary to which we have invited the president of the Kansas Medical Society and the president of the Kansas Medical Auxiliary.

I consider it a privilege to have served District Six during the past year and would like to express my appreciation and thanks to all the members and especially to our Executive Secretary, Mr. Ray Selbach.

FRANCIS T. COLLINS, M.D., *Councilor*

SEVENTH DISTRICT

The Seventh District has had a most successful year with excellent attendance at the postgraduate courses here in Emporia and at our monthly society meetings. The programs at our society meetings have been of especially good quality.

Our delegates have been diligent in their duties in attending the meetings. We feel that we have no major problems. As a matter of interest we have cut our area dues in half since we have a substantial balance in the bank. This should be of interest to those societies who have had to increase their dues.

At our annual councilor dinner we were honored to have Dr. John C. Mitchell, president of the Kansas Medical Society, and his wife; Mrs. Chester M. Lessenden, Jr., president of the Woman's Auxiliary to the Kansas Medical Society, and Dr. Lessenden; and Mr. Oliver E. Ebel, executive secretary of the Kansas

Medical Society. It was a most instructive session and, I feel, a most enjoyable evening.

My experiences as a councilor have been very worthwhile.

J. L. MORGAN, M.D., *Councilor*

TENTH DISTRICT

Medical agitation in the Tenth District has been at a minimum this year. Implementation with the welfare program has gone over without much difficulty.

The entertainment of the state officers this year in Hutchinson was well attended and enjoyed by all. The woman's auxiliary has continued to donate attention to public relations and safety programs, and they have been collecting drugs for Project Concern.

In my humble opinion, our difficulty this year with the Board of Social Welfare is probably only starting. If the present trend persists, in a few years the State Board of Health will become another part of Social Welfare.

We have a distinct change in format for the annual session in Hutchinson this year. The first day will be devoted to papers on the subject of rehabilitation of newly released inmates from the state prison. Speakers of renown will be on the program. The second day will be devoted to papers on nuclear welfare. The public will be invited to these programs.

It has been a real pleasure to be councilor for the Tenth District and I wish to express my gratitude to those who have cooperated with me.

May we see you all at the State Meeting.

JOHN N. BLANK, M.D., *Councilor*

TWELFTH DISTRICT

The component medical societies of District 12 presented no special problems or requests to their councilor during the past year. I am happy for this since it indicates no special problems.

During the past year our society meetings have been fairly well attended although our South-Central group has had some difficulty meeting because of our large area, poor weather, etc.

One of the highlights of our year was the District 12 Council meeting held in Harper on October 21, 1964. The Woman's Auxiliary was represented by Mrs. C. M. Lessenden, President, Topeka, and Mrs. F. Carter Newsom of Wichita. The Kansas Medical Society was represented by Dr. George E.

Burket, Jr., President-elect, Kingman. There was considerable discussion as to the Kerr-Mills Act, the general election and, of course, the Medicare possibilities.

A special effort has been made in this district to increase membership and support of KaMPAC under the direction of Dr. C. M. Black of Pratt. I am happy to report a goodly number of our membership are members of KaMPAC and have given it considerable financial support. In addition, our woman's auxiliary has spent many hours in many different ways, getting the word to community clubs and in this way making people mindful of their duties as tax paying citizens.

It has been a pleasure serving as councilor for District 12 during the past year and I wish to thank everyone for their help and cooperation.

L. W. PATZKOWSKY, M.D., *Councilor*

THIRTEENTH DISTRICT

The year has been a relatively quiet one in District 13. We are still in need of several physicians, especially in the more rural areas, and of some specialties in our larger towns. Building programs continue, with some hospital additions going up, but in particular, plans and building for rest and nursing homes. The very real need for nursing home and retirement facilities remains quite large. There were no great medical problems in this district during the past year. The annual district meeting was held September 17, 1964, and was well attended. We are now involved in the process of trying to consolidate and combine small county societies, and to redraw the district boundaries to conform to the county society lines.

Your councilor again expresses his thanks to all members of the district for their help and cooperation during the year.

A. M. CHERNER, M.D., *Councilor*

FIFTEENTH DISTRICT

District 15 has had a very active year, primarily in the political area. District 15 found itself in the first congressional district and as everyone knows we had quite a battle to re-elect a friend of medicine, Robert Dole. I don't believe that I can ever remember a time in my years in Western Kansas where so many doctors became actively involved in any political campaign and on a non-partisan basis to see that a friend of medicine was re-elected. We have also spent a great deal of time and energy in the district trying to make people aware of the difference between Medi-

care and Eldercare. We placed ads in the local newspapers and each one in the district to acquaint people with the differences between the two.

On October 13, 1964, the yearly meeting of the entire councilor district was held in Meade in conjunction with the Woman's Auxiliary group. The Iroquois Medical Society hosted the affair and a pleasant evening was had by all. Dr. Burket was there representing the state Society and presented several of the things that were coming up for the legislative years and several of the items which were creating quite a disturbance as far as medicine in general was concerned. Mrs. Lessenden, the president of the Woman's Auxiliary was also present to speak to the women and Mrs. E. Burke Scagnelli, president-elect of the Auxiliary was also present. Dr. Cyril Black of Pratt came before the councilor group with a plea for AMPAC and KaMPAC, again on a non-partisan basis.

The 15th councilor district is greatly indebted to Mrs. Robert Daugherty of Meade, the president of the woman's auxiliary of the Iroquois Society and Mrs. Richard Hill of Meade, the representative of the auxiliary from this district for their efforts in making this affair a success again.

We have been quite fortunate in both the Seward County Medical Society and the Ford County Medical Society in having a very favorable press present our side of Eldercare. Both of these papers have been extremely fair in their coverage but have not hidden text of Eldercare on the back pages. Both editorial pages have been excellent in giving us adequate time and coverage.

It has been a pleasure for me to serve as a councilor for the 15th councilor district and we look forward to another year of continued effort to bring medicine back out of the field and realm of politics into the doctor-patient relationship. To this we pledge our efforts.

EVAN R. WILLIAMS, M.D., *Councilor*

SIXTEENTH DISTRICT

The Northwest Kansas Medical Society covers Midway-U.S.A. Therefore, our thinking on medicine should be a good average.

Our membership of 47 indicates we are holding our own, but some good locations are opening up due to increasing ages of some of our general practitioners.

Postgraduate conferences are always very well attended, and the new time schedule is working out satisfactorily.

We are thinking hard on "The Freedom to Practice Medicine." Now that the times are separating medicine and religion we are losing the freedom to prac-

tice them according to our conscience, in both instances. Socialism, which is really "Deceit of Responsibility" in any of its forms, has brought this about. Can it be that the "tribal medicine man" had a more realistic, eternal philosophy when he combined the occasional concrete medications, furnished by nature, along with his calling on the "Great Power" to help heal the sick?

Due to Socialism, and abetted by the modern, over-emphasis in the teaching of specialism, the "General Practitioner and Medicine Man" is being slowly ground out of existence. He is to be replaced by the Specialist Mechanical Monster who IBM's all illnesses through laboratory channels and hospitalizations. But, he fails to use any of his avaricious, capitalistic time to bind the wounds of the suffering. He runs only on the gold standards of insurance payments.

The general practice of medicine is not easy, and unless some personal, moral responsibilities are reinstated into our profession it will degenerate into a trade and be unionized out of existence as the coal miners of John Lewis. They also thought that by raising their prices and continually shortening their work hours it would make them more respected as better workmen.

In other words—let's quit competing on shortness of hours and financial returns and return to more personal association and consultation of all physicians, to alienate the illness of the complete body and mind. We would all be better off to offer free treatment to the indigent, as many physicians have done for years. Then, limit the lower and middle class to a \$50 deductible insurance policy paid personally, or by the government in some instances. This would eliminate a fabulous amount of "so-called" medical costs which, under that \$50 level, are greatly graft and administrative costs. By this simple remedy the medical profession might save the freedom to practice medicine as it sees fit without bureaucratic dictation.

My seven years as councilor have been very enlightening, enjoyable and rewarding. I am grateful for the opportunities it has given me to associate with many very dedicated, hard working members. All they ask is for you to do your part by faithful attendance at your committee and medical meetings.

EDWARD F. STEICHEN, M.D., *Councilor*

SEVENTEENTH DISTRICT

Thoughts of a retiring councilor after two terms serving District 17, composed of 12 Southwest Kansas Counties.

In looking back over the past few years, striking

changes have taken place in this area in the field of medicine. There are many new doctors, new hospitals or new hospital additions with improved diagnostic facilities; an enlarged area mental health center here in Garden City, radical changes in Social Welfare Department, implementation of Kerr-Mills Law, improvements in Post Graduate Medical Education—All efforts to provide improved medical care to all types of medical problems, yet we are told this is not enough—that we must adopt the King-Anderson (medicare) bill to provide for the elderly under Social Security.

Our area has failed to carry the fight to where it will do the most good, to the young people who are trying to feed, clothe and educate their children. Most young people would be glad to pay their share of the tax load for the elderly in *need* of help. However, this is not the plan and we have not presented our

case clearly. Perhaps a better organized public relations effort should be instituted. Some will say "it's too late" and as a result nothing is done. While we worry about the national issues—we are not doing too well at the state level. More of the younger doctors must be encouraged to take an active part in our organization—to know the issues and to do something about them.

Our district has had its usual quotas of meetings and an active interest in the circuit courses. However, because of the tremendous distances there is a definite lack of communication which only adds to the lack of interest in state political affairs.

I would like to thank the doctors of this district for their cooperation during my two terms. It has been a rewarding and educational experience.

JOHN O. AUSTIN, M.D., *Councilor*

House of Delegates

Monday—May 10

7:30 a.m.—Town Club

Thursday—May 13

9:00 a.m.—Baker Hotel

Reference Committees

Tuesday—May 11—Baker Hotel

4:00 p.m.—Committee No. 1

7:30 p.m.—Committee No. 2

Committee Reports

Activities of the Committees of the Kansas Medical Society

ALLIED GROUPS

C. H. Benage, Pittsburg, Chairman; H. O. Bullock, Independence; J. W. Campbell, Lawrence; O. R. Clark, Topeka; W. M. Cole, Wellington; F. J. Eckdall, Emporia; R. J. Eilers, Kansas City; D. A. Huebert, Wichita; F. X. Lenski, Jr., Iola; K. A. Powell, Leavenworth; J. B. Pretz, Kansas City; N. C. Smith, Arkansas City; M. O. Steffen, Great Bend; M. W. Wells, Winfield; W. T. West, Wichita.

Your Allied Groups Committee has had three meetings during the year. There have been two meetings with the Kansas State Nurses Association; one meeting with the Kansas Pharmaceutical Association.

There are distinct advantages in the allied health organizations trying to coordinate their efforts. It seems most wise that each possess its own autonomy, thus being able and competent in implementing its responsibilities.

I am sure we are all aware of the fact that conclusions must be reached in an almost daily change of circumstances and not finalized according to professional tradition, status or economics. Our aim, our goal, and our thoughts must be directed toward the improvement of patient care.

It is my opinion that in the past year pharmacy, nursing and medicine have improved their relationship with each other. It will be only by continued exploration of mutual problems that patient care can be improved, and the public's image of each profession, singly and jointly, will be sharpened.

C. H. BENAGE, M.D., *Chairman*

ANESTHESIOLOGY

R. T. Parmley, Wichita, Chairman; N. W. Anderson, Topeka; F. R. Applegate, Jr., Goodland; H. J. Brown, Winfield; B. A. Brungardt, Salina; E. J. Chaney, Belleville; G. E. Eaton, Salina; Wray Enders, Kansas City; E. L. Frederickson, Kansas City; F. A. Garlock, Great Bend; P. A. Godwin, Lawrence; W. P. Hibbett, McPherson; G. C. Hutchison, Hays; M. R. Knapp, Wichita; D. E. McIntosh, Parsons; R. S. McKee, Leavenworth; W. O. Martin, Topeka; A. W. Mee, Wichita; E. V. Miller, Salina; M. E. Nunemaker, Hutchinson; W. F. Powers, Wichita; R. H. Robinson, Wichita; L. J. Ruzicka, Concordia; E. M. Sutton, Salina; A. O. Tetzlaff, Kansas City; E. T. Wulff, Atchison.

The plans for the future development of the Anesthesia Mortality Study have been discussed in numer-

ous meetings between the chairman of the Anesthesiology Committee and those he has called on in an advisory capacity.

Plans have been also discussed for a series of conferences throughout the state on respiratory and circulatory resuscitation, which could perhaps be held in conjunction with the University of Kansas Medical School.

The committee will next meet at the time of the annual state meeting in Hutchinson, where this year's activities will be reviewed by the entire group.

RAY T. PARMLEY, M.D., *Chairman*

AUXILIARY

L. R. Pyle, Topeka, Chairman; J. G. Claypool, Howard; F. T. Collins, Topeka; L. G. Glenn, Protection; O. L. Hanson, Topeka; H. W. Hiesterman, Quinter; J. B. Jarrott, Hutchinson; C. M. Lessenden, Topeka; C. E. Partridge, Emporia; E. B. Scagnelli, Dodge City; Leland Speer, Kansas City; L. E. Vin Zant, Wichita.

The Auxiliary Committee has had no formal meetings and there have been no problems.

The chairman has had several discussions with Mrs. Chester Lessenden, the president of the Auxiliary, concerning some small details and Kansas Medical Society policy.

The chairman was also a guest for dinner during the fall conference at which time he was asked to make a few remarks on the political situation.

L. R. PYLE, M.D., *Chairman*

CHILD WELFARE

R. N. Shears, Hutchinson, Chairman; H. V. Bair, Parsons; M. J. Blood, Wichita; R. D. Boles, Dodge City; L. Y. Cheng, Topeka; A. C. Cherry, Jr., Topeka; W. H. Crouch, Topeka; D. R. Davis, Emporia; R. L. Dreher, Salina; W. J. Gardner, Halstead; R. B. Harvey, Wichita; T. C. Hurst, Wichita; A. C. Irby, Fort Scott; J. W. Jacks, Pratt; F. Law, Ellinwood; E. D. McNeil, Manhattan; J. H. McNickle, Ashland; J. T. Morrow, Topeka; E. T. Olson, Newton; C. F. Orthwein, Jr., Hutchinson; P. T. Schloesser, Topeka; L. N. Speer, Kansas City; R. E. Switzer, Topeka; H. A. Wenner, Kansas City; T. E. Young, Topeka.

The Committee on Child Welfare met on November 23, 1964, primarily to continue work on pro-

posed legislation to protect the abused child. This had been requested by the Society at the annual meeting. During the past year, consultation with Dan Hobson, chairman of the Family Law Committee of the Kansas Bar Association, and William Ferguson, Attorney General, was again obtained. In addition, material from the AMA and legislation from other states was surveyed. Proposals from these sources were used in the final draft.

The combined material previously mentioned was then developed by the committee into an act for the Mandatory Reporting of the Abuse and Neglect of Children. On January 17, Dr. Patricia Schloesser, at the request of the chairman of the Committee on Child Welfare, appeared before the Council to present the committee's legislation.

The committee meeting in November also discussed briefly the progress of the survey in legislation regarding phenylketonuria. A short discussion of what action should be taken by this committee in regard to cigarette smoking concluded the business for this year.

ROBERT N. SHEARS, M.D., *Chairman*

CONSERVATION OF HEARING AND SPEECH

H. R. Draemel, Salina, Chairman; C. W. Armstrong, Salina; J. A. Budetti, Wichita; R. L. Dunlap, Lawrence; E. S. Gendel, Topeka; C. L. Gray, Wichita; C. T. Hinshaw, Wichita; J. J. Johnson, Wichita; C. D. Kosar, Concordia; R. G. Montgomery-Short, Halstead; V. R. Moorman, Hutchinson; W. D. Pitman, Pratt; G. O. Proud, Kansas City; C. H. Steele, Kansas City; M. F. Stock, Pittsburg.

The chief accomplishment of the 1964-65 year was the implementation and successful launching of the Kansas Hearing Screening Program with the project director, Mr. Robert Cozad; assistant project director, Mr. Larry Marston; and the project nurse, Miss Amelia Villamaria. Screening in the day-care centers, migrant children and the Boys' and Girls' Industrial schools, involving 500 children, comprised the 1964 summer's activity.

Of 212 children screened at the Boys' Industrial School, 72 had a hearing impairment. This was 33.9 per cent of the group. This is a very high incidence in contrast to an average incidence of five per cent in the public schools.

The Girls' Industrial School did not have as high an incidence of hearing impairment as the Boys', although from 88 girls screened, 11 demonstrated a hearing loss. This represents 12.5 per cent of the group.

Medical follow-up is being conducted in conjunction with the staffs of these institutions.

The fall of 1964 saw hearing screening evaluations of school children in Jackson, Lane, Wichita, Greeley, Sherman, and Thomas counties; this work was done before the delivery of the mobile unit was achieved in December, 1964.

Eight hundred and twelve, or 13 per cent of the children screened, failed to pass the first screening test. A re-screening of these first failures resulted in only 450 children failing a second time. Thus 362, or 49 per cent, of the original group passed the second screening test; however, 51 per cent did not. These children were subsequently given an air and bone conduction threshold test. Of those failing the second screening test, 124 were referred, by way of their parents, to family physicians. The group referred for medical attention represented two per cent of the entire group screened.

MEDICAL CLINICS

Two one-day medical diagnostic clinics were held in conjunction with the fall testing. The first was held on October 31, 1964, at Leoti. This served children referred from physicians in Lane, Wichita, and Greeley counties. This clinic was held in the grade school building. Physical facilities of the school were quite adequate for the clinic, and the utmost cooperation was received from the school administration and staff. I was the acting otologist serving the medical diagnostician for the clinic.

The second clinic was held on December 5, 1964, at Goodland, for children referred from Sherman and Thomas counties. It was held in the Goodland school administration building and excellent cooperation was given by the school officials. This included newspaper, radio, and television news releases. Dr. Joseph Budetti, Wichita, served as the consulting otologist.

Since otological specialists were only 20 to 30 miles from any point in Jackson County, no diagnostic clinic was made available to physicians in that area.

Use of the diagnostic clinics by the local physicians was excellent. Of the 35 children referred to physicians in the three-county area served by the Leoti clinic, 17, or 49 per cent, were seen at the clinic. Equally good use was made of the Goodland clinic. From 59 children referred to the family physicians in this area, 32, or 54 per cent, were seen at the clinic.

Follow-up is now being done on those children who have not returned a medical evaluation form after receiving recommendation to consult their physician. At least one inquiry has been made on each child not returning this form.

A meeting of the Conservation of Hearing and Speech Committee of the Kansas Medical Society was held in December. Advisory Committee and

project members present were: Dr. Joseph A. Budetti, Otolologist, Wichita; Dr. Harry R. Draemel, Otolologist, Salina; Miss Dorothy Woodin, R.N., State Director of Nursing; Mrs. Betty Cozad, Speech and Hearing Consultant, Division of Special Education, Kansas State Department of Public Instruction; Dr. William Miller, representative for Dr. Martin Palmer, Institute of Logopedics, project staff and coordinators. Items discussed were (1) Results of fall screening work; (2) How to help children whose families could not finance medical care; (3) Future screening and related medical diagnostic clinics. A tour of the mobile unit concluded the meeting.

Our committee has been one of progress, thanks to the good and active membership.

H. R. DRAEMEL, M.D., *Chairman*

CONTROL OF CANCER

W. G. Cauble, Wichita, Chairman; F. F. Allbritten, Jr., Kansas City; N. W. Anderson, Topeka; J. H. Armstrong, Kansas City; G. L. Campbell, Arkansas City; E. P. Carreau, Wichita; A. M. Cherner, Hays; L. K. Crumpacker, Wichita; J. C. Dysart, Sterling; L. S. Fent, Newton; A. A. Fink, Topeka; J. W. Graves, Wichita; A. L. Hilbig, Liberal; W. J. Kiser, Wichita; K. E. Krantz, Kansas City; D. Lawson, Topeka; G. J. Mastio, Wichita; C. H. Miller, Parsons; G. E. Miller, Jr., Kansas City; N. C. Nash, Wichita; W. B. Nickell, Topeka; J. A. O'Grady, Halstead; C. R. Openshaw, Hutchinson; L. W. Purinton, Wichita; R. G. Rate, Halstead; D. C. Reed, Wichita; L. W. Reynolds, Hays; R. H. Riedel, Topeka; G. S. Ripley, Salina; W. E. Ruth, Kansas City; D. L. Scott, Belleville; C. S. Sherwood, Topeka; G. R. Stone, Manhattan; R. J. Taylor, Wichita; G. M. Tice, Kansas City; J. W. Travis, Topeka; H. M. Wiley, Garden City; W. H. Zimmerman, Topeka.

The Committee on Control of Cancer met September 26, 1964, in Wichita. It was a combined meeting with the Medical and Scientific Committee of the Kansas Division of the American Cancer Society.

It was unanimously approved by the committee to send out the questionnaire on "Cancer of the Female Genital Tract." This has been sent out from the Society office and the returns are being tabulated by the Kansas State Department of Health.

The Female Genital Death Study as approved by the House of Delegates of the Kansas Medical Society will be sent to all physicians who have patients dying of cancer of the female genital tract. An Ad Hoc committee met in Topeka and discussed the questionnaire and methods of reviewing them. A joint committee will be appointed to study the questionnaires needing consideration.

W. G. CAUBLE, M.D., *Chairman*

CONTROL OF TUBERCULOSIS

J. C. Dowell, Salina, Chairman; A. L. Ashmore, Wichita; E. L. A. Baude, Topeka; M. L. Bauman, Wichita; J. Brown, Chanute; R. I. Canuteson, Lawrence; P. R. Carpenter, Kansas City; G. E. Finkle, McPherson; J. K. Fulton, Wichita; B. Goldblatt, Kansas City; M. M. Halley, Topeka; C. F. Haughey, Salina; I. S. Kwak, Norton; A. J. Laham, Wichita; D. S. Lowe, Hiawatha; J. L. Morgan, Emporia; J. M. Mott, Topeka; G. W. Nice, Topeka; C. Pokorny, Halstead; R. H. Riedel, Topeka; W. E. Ruth, Kansas City; W. A. Smiley, Jr., Goodland; F. A. Trump, Ottawa; D. E. Wilcox, Topeka.

The Kansas Medical Society's committee for the Control of Tuberculosis met at Salina, March 28, 1965. Reports from the State Tuberculosis Hospitals, State Department of Health, school certification program and regional chest clinics were presented and discussed. The committee took action on two proposals by the appointment of a sub-committee to further study the following items: (1) The dissemination of information regarding the recent Task Force report on Tuberculosis and regarding suggested procedures for practicing physicians and public health officers to take when confronted with tuberculosis problems; and (2) The sub-committee was requested to meet with other interested agencies in order to work out an acceptable program for the control of tuberculosis in Kansas over the next several years. Among the suggested items for their attention were the photofluorographic units, skin testing programs and contact follow-up.

JAMES C. DOWELL, M.D., *Chairman*

CORONERS

J. T. Lattimore, Topeka, Chairman; S. B. Acker, Wichita; P. D. Adams, Osage City; C. V. Black, Pratt; R. J. Burkman, Chanute; E. R. Cram, St. Francis; H. D. Doubek, Belleville; J. T. Good, Fort Scott; James Grimes, Lyons; J. E. Johnson, Shawnee Mission; W. E. Moore, Kingman; K. M. Neudorfer, Wichita; G. K. Palmer, Salina; H. Preston Palmer, Scott City; P. G. Price, Wellington; R. J. Rettenmaier, Kansas City; E. R. Schlachter, Wichita; Alex Scott, Junction City; R. J. Taylor, Wichita; Thomas Taylor, Phillipsburg; C. J. Weber, Salina; K. G. Wedel, Minneapolis; J. P. White, Parsons; R. P. Woods, Topeka.

Six meetings were held during the year and many functions were completed.

The committee aided in setting up the Coroners' Seminar held at the University of Kansas Medical Center on March 27 and 28. Eighty-three Kansas coroners attended the seminar. Eleven other Kansas physicians and many law enforcement officials, as well as 20 physicians from other states were also present.

The committee is also fostering the organization of the Kansas Coroners Association.

The committee desires to express its gratitude to the district judges for their fine cooperation in making appointments of district and deputy district coroners.

J. L. LATTIMORE, M.D., *Chairman*

DIABETES

B. M. Matassarín, Wichita, Chairman; N. W. Anderson, Topeka; J. A. Blount, Larned; R. M. Daniels, Valley Center; H. S. Foutz, Minneapolis; B. Goldblatt, Kansas City; W. P. Hibbett, McPherson; T. J. Luellen, Wichita; R. F. Morton, Arkansas City; L. W. Purinton, Wichita; J. G. Rowlett, Paola; W. C. Schwartz, Manhattan; C. D. Shrader, Salina; B. G. Smith, Arkansas City; R. P. Stoffer, Halstead; N. V. Treger, Topeka; H. A. Tretbar, Wichita.

The Diabetes Committee of the Kansas Medical Society performed its business during this last year primarily through correspondence and similar communications. The primary accomplishment has been the encouragement of the committee toward the formation of the Diabetes Association of the State of Kansas which group has now been officially formed and will carry on a charter membership drive.

A considerable amount of activity has been performed along the lines of lay communication and education as regards the problem of diabetes.

BENJAMIN M. MATASSARIN, M.D., *Chairman*

EMERGENCY MEDICAL CARE

E. B. Struxness, Hutchinson, Chairman; F. C. Beelman, Topeka; R. W. Blackburn, Council Grove; H. D. Ellis, Wichita; J. G. Esch, Pittsburg; L. G. Graves, St. John; A. C. Harms, Kansas City; S. P. Hornung, Colby; H. H. Hyndman, Wichita; S. H. Kouri, Wichita; K. L. Lohmeyer, Emporia; A. B. McIntosh, Mission; N. G. Marvin, Syracuse; J. M. Mott, Topeka; W. K. Nickell, Topeka; W. A. Nixon, Wichita; M. E. Nunemaker, Hutchinson; C. E. Partridge, Emporia; J. L. Perkins, Hutchinson; R. C. Polson, Great Bend; O. F. Prochazka, Liberal; R. H. Robinson, Wichita; C. E. Robison, Lawrence; D. P. Trees, Wichita; J. R. Twinem, Olathe; P. R. Wheeler, Wichita; M. A. Connolly, Salina; G. W. Cramer, Parsons; M. E. Spikes, Garden City.

Lack of interest in, knowledge of, and planning for emergency medical care in disasters has greatly hampered the activities of this committee, despite the fact that needs in this area are numerous and complex. Liaison between the various organizations that would be involved in a disaster and the Medical Society is, for all practical purposes, non-existent.

We have yet to realize the need for coordinated disaster planning in most areas of the state. There are notable exceptions, of course, but people who have been involved in disasters are well aware of the chaos which can develop when there is no definite plan of action.

Significant actions have been taken in planning for emergency medical care by our sub-committee which we hope will stimulate more interest and add impetus to emergency preparedness for the future.

Seven new 200-bed Packaged Disaster Hospitals (PDH) have been prepositioned in the state. These have equipment and supplies which will permit a 30-day operating capability. Thirteen older models are presently being brought to a similar capability. PDH training exercises have been conducted in four locations in which these hospitals are stored. Over 2,000 medical, paramedical, and lay persons participated in these exercises.

On September 20, 1964, the committee met in Salina to discuss actions which should be taken in planning for the utilization of these 20 hospitals should the need arise. To be usable a detailed utilization plan must be developed for each of these and the area they would serve. The major problem, as seen by the committee, centers about obtaining sufficient manpower to staff these hospitals without "robbing" existing hospitals of their personnel. It was generally felt that this could be accomplished only by an area planning concept. Letters have been sent to the county medical societies in which these hospitals are located requesting the appointment of one of their members to assume responsibility as chief of staff and for local planning purposes. No responses have as yet been received.

In October, 1964, the Kansas Health Mobilization Stateline Course was held in Hutchinson for all those groups involved in health mobilization responsibilities. Two hundred seventy-seven people attended from over the state to learn more about health and medical services in disasters. This two-day course was sponsored by the Kansas State Department of Health, Kansas Civil Defense, and the Committee on Emergency Medical Care in cooperation with the U. S. Public Health Service, Division of Health Mobilization, Region VI. It is anticipated that similar courses will be conducted at the county or district level in the future.

The Medical Self-Help Training Program has trained over 6,000 individuals, a "far cry" from the goal of 690,000 which is deemed necessary for the entire state. The committee hopes that all members of the Society will support and help promote this and all other preparedness programs.

A workable method to handle mass casualties must be developed, understood, and accepted by the medi-

cal and allied professions if any hope is to be held toward making the problem manageable.

DISASTER PLANNING

WHEREAS, coordinated planning to provide health services in case of a major disaster must be accomplished prior to its occurrence, and

WHEREAS, the medical profession should accept its responsibility for leadership in such planning,

Therefore, Be It Resolved, That the House of Delegates direct the Committee on Emergency Medical Care to organize, at the earliest possible time, a statewide program which can be instantly placed into operation at such time and place as needed, and

Be It Further Resolved, That the Committee on Emergency Medical Care coordinate this planning with such allied professions as may be needed to complete a disaster health service, and

Be It Further Resolved, That the president of the Kansas Medical Society be directed to announce this project to, and to ask the assistance of, all component medical societies in this state, each hospital professional staff in Kansas and such other persons or organizations as may be needed in this effort.

E. B. STRUXNESS, M.D., *Chairman*

GERONTOLOGY

D. V. Preheim, Newton, Chairman; N. W. Anderson, Topeka; D. C. Chaffee, Abilene; R. Chen, Topeka; G. F. Davis, Kanopolis; T. Dechairo, Westmoreland; H. A. Flanders, Hays; J. T. Hamilton, Wichita; J. A. Howell, Wellington; A. M. Isaac, Wichita; C. H. Johnson, Mission; J. J. Marchbanks, Oakley; R. McCoy, Coldwater; R. F. Morton, Arkansas City; T. V. Oltman, Riley; D. L. Rose, Kansas City; H. L. Songer, Lincoln; C. E. Stevenson, Neodesha; G. A. Surface, Ellis.

During the present year this committee has involved itself more fully in dialogue with the Kansas Nursing Home Association and the Committee on Hospitals of the Kansas Medical Society. Efforts have been particularly directed towards exploring hospital-nursing home relationships.

The Gerontology Committee officers met with Kansas Nursing Home Association representatives in Wichita. The Nursing Home Association presented several proposals for cooperation. They solicited continuing Kansas Medical Society support for its fledgling program of nursing home accreditation. This was extended them. A report on the status of nursing home accreditation in Kansas will appear in the special gerontology issue of the JOURNAL OF THE KANSAS MEDICAL SOCIETY, to be published within the next few months. Talks are continuing on a variety of topics: A sharper definition between functions of

hospital and nursing home; the question of licensing fraternal, church, and one- and two-bed proprietary nursing homes; problems in Blue Cross and insurance carrier payment for patient care in skilled and personal care nursing homes; legislation to permit a patient's family to participate in the cost of nursing home care for recipients of MAA; and setting up of a referral program which would provide increased physician participation in the further raising of standards of nursing home care. For this latter purpose the Gerontology Committee wishes to secure the names of physicians in all counties who care for patients in nursing homes, and those who have a greater than average interest in the rehabilitative care of patients in nursing homes.

At a joint meeting with the Society's Committee on Hospitals in Salina, December 13, 1964, the problem of achieving a sharper definition between hospital and nursing home function was considered. A large, gray area of overlap was found to exist. The two committees pursued this problem further in a joint meeting in Hutchinson, January 17, 1965, with Marvin Nichols, administrator of Grace Hospital as resource person. Again new learnings were experienced.

The Kansas Hospital Association officers have been invited to a joint meeting with the Gerontology and Hospital Committees some time in April to consider these and other problems further.

The Committee on Gerontology has again sponsored an issue of the JOURNAL OF THE KANSAS MEDICAL SOCIETY. It is grateful for this opportunity and the committee hopes more such opportunities will be extended it in the future.

The chairman of the Gerontology Committee attended a regional AMA-sponsored symposium on aging in Oklahoma City in December, 1964. Continuing participation in the efforts of the AMA Commission on Aging is felt to be a must.

In 1959 the chairman of the Gerontology Committee expressed the thought that this committee had accomplished its work and that little further remained to be done. The precise opposite of this view is held by the present members of the committee. Much remains to be done. Paucity of interest and inadequate participation by members of the Society in the problems of aging and their care and in the program of the Committee on Gerontology is seen as this committee's greatest handicap. It is hoped that renewed interest and state-wide participation can be realized in the coming year. The committee has again enjoyed the excellent cooperation of the Society's Topeka staff, and is especially grateful to Oliver Ebel for his continued help and encouragement.

PROPOSED RESOLUTIONS

No. 1.

WHEREAS, the Kansas Board of Social Welfare has frozen the pay rate for welfare and MAA recipients in nursing homes; and

WHEREAS, in some areas of the state this fee is unrealistic;

Be It Resolved, That the Kansas Medical Society recommend to the Kansas Board of Social Welfare the development of a logical formula for payment nursing home care based upon the cost of care in the individual nursing home.

No. 2.

WHEREAS, gerontology as a medical specialty has not found wide acceptance; and

WHEREAS, the health problems and illnesses of older people do not materially differ from those of other age groups; and

WHEREAS, the Commission on Aging of the American Medical Association has recognized these truths and has abandoned the use of the term gerontology in its own name;

Be It Resolved, That the name of the Kansas Medical Society Committee on Gerontology be changed to the KANSAS MEDICAL SOCIETY COMMITTEE ON AGING.

No. 3.

WHEREAS, one and two bed adult care homes, and certain church and charitable adult care home facilities, are exempt from licensure under present Kansas adult care home licensure laws; and

WHEREAS, under present welfare laws, welfare client nursing home patients may be placed in accommodations which operate under these exempt categories; and

WHEREAS, construction and operation costs of licensed adult care homes substantially exceed construction and operation costs of unlicensed adult care homes, with said differential causing unfair discrimination against licensed adult care homes;

Therefore Be It Resolved, That the Kansas Medical Society recommends legislation which would provide that no welfare patients shall be placed in an unlicensed adult care home of whatever category, if a bed in a suitable licensed adult care home is available; and

Be It Further Resolved, That the Kansas Medical Society recommends legislation which would provide that all adult care homes in the State of Kansas, except one and two bed units, shall be under state licensure.

D. V. PREHEIM, M.D., *Chairman*

INDUSTRIAL MEDICINE

J. L. Salomon, Wichita, Chairman; W. L. Anderson, Atchison; J. A. Budetti, Wichita; G. L. Campbell, Arkansas City; A. S. J. Clark, Prairie Village; R. A. Craw-

ford, Hutchinson; J. M. Donnell, Wichita; C. L. Francisco, Kansas City; W. L. Good, Mission; O. L. Hanson, Topeka; W. A. Harms, Hesston; G. H. Hassard, Winfield; C. D. Hensley, Jr., Wichita; J. B. Jarrott, Hutchinson; C. H. Johnson, Mission; J. F. Lance, Jr., Wichita; C. E. Lewis, Kansas City; F. L. Loveland, Topeka; S. C. McCrae, Salina; A. E. Martin, Jr., Coffeyville; W. R. Miller, Wichita; A. C. Mitchell, Lawrence; P. C. Nohe, Kansas City; L. M. Pearce, Shawnee Mission; M. C. Pearson, Concordia; W. F. Powers, Wichita; R. K. Purves, Wichita; M. E. Pusitz, Topeka; H. L. Regier, Kansas City; E. R. Schlachter, Wichita; E. C. Sifers, Kansas City; J. F. Thurlow, Hays; C. L. White, Great Bend.

The committee has been quite active because of the state legislature being in session and the increased liaison with the Director of Workmen's Compensation. The committee forwarded their recommendations concerning the possible legislative changes in Workmen's Compensation laws in Kansas to the Economic Security Council of the Kansas State Chamber of Commerce. Included were recommendations that the relationship between medical and/or physical enmity of the workman to his job be clarified and that the section of the law dealing with disability evaluation be clarified wherein the physician would be asked to designate the degree of *impairment of function* as his only evaluation.

The committee has worked in close relationship with the Workmen's Compensation director, at his specific request, in multiple special problems related to Workmen's Compensation and has served in an advisory capacity to the Governor's Advisory Committee to the Workmen's Compensation director to clarify the status of forms and reports, evaluating fees relative to the Relative Value Schedule and other associated problems as they were related in the medical aspect.

The committee is continuing to serve in these capacities with several meetings to be scheduled in the near future.

J. L. SALOMON, M.D., *Chairman*

MATERNAL WELFARE

O. L. Martin, M.D., Salina, Chairman; Henry Aldis, Fort Scott; A. H. Baum, Dodge City; J. S. Benton, Newton; D. L. Berger, Shawnee Mission; E. C. Brandsted, McPherson; R. M. Carr, Junction City; J. F. Cornely, Osborne; G. W. Fields, Scott City; H. M. Floersch, Kansas City; E. S. Gendel, Topeka; D. E. Gray, Topeka; N. D. Harris, Liberal; N. R. Harris, Salina; R. G. Heasty, Manhattan; M. W. Hobson, Shawnee Mission; S. P. Hornung, Colby; W. M. Kane, Hays; J. G. Kendrick, Wichita; D. S. Klassen, Newton; K. E. Krantz, Kansas City; J. G. Lee, Jr., Kansas City; C. P. McCoy, Wichita; E. A. Martin, Parsons; G. E. Max-

well, Salina; J. W. Neumann, Garden City; F. F. Nyberg, Wichita; N. H. Overholser, El Dorado; O. S. Peterson, Wichita; R. E. Pfuetze, Topeka; E. S. Rich, Newton; W. R. Roy, Topeka; J. C. Schroll, Hutchinson; D. L. Scott, Belleville; C. D. Shrader, Salina; M. D. Snowbarger, Emporia; Robert Sholberg, Jr., McPherson; E. F. Steichen, Lenora; W. C. Swisher, Wichita; D. L. Tappen, Topeka; Christine Thelen, Wichita; C. D. Voorhees, Leavenworth; W. T. West, Wichita; H. L. Wilcox, Lawrence; L. E. Woodard, Wichita.

The committee met in October and April, to review a total of 17 maternal deaths.

At the October meeting, Resolution No. 21 of the House of Delegates of the Kansas Medical Society 1964 Annual Meeting, was reviewed. The House of Delegates directed the Maternal Welfare Committee of the Society to recommend proposals for updating the obsolete sterilization and abortion laws in Kansas. Previous legislative proposals were revised by the committee and were submitted to the Executive Council of the Medical Society by Dr. William Roy. The Council approved these recommendations. The position of the Medical Society is to support, not initiate such legislation along these lines, if introduced. Repeal of the present legislation on sterilization is a possibility for the legislative session, and would be a progressive step at this time.

During the year, full distribution of the manual "Suggested Guide for Obstetric Practice," was made. Several letters from other states were received commending the Society on this publication. The manual received excellent reception by physicians in Kansas.

At the April meeting, a proposal by the chairman, to publish a summary report of maternal deaths and analysis of cases, was discussed.

The maternal death rate in 1964, was the lowest ever recorded in Kansas.

<i>Total Deaths in 1963</i>	<i>Rate</i>
17	3.8
<i>Total Deaths in 1964</i>	<i>Rate</i>
8	1.9

This committee is not only the largest committee of the Medical Society, but probably is the best attended. Physician interest in review of cases and in maternal care areas, is demonstrated by this participation.

O. L. MARTIN, M.D., *Chairman*

MEDICAL ECONOMICS

L. W. Reynolds, Hays, Chairman; E. G. Anderson, Wichita; G. S. Bascom, Manhattan; J. N. Blank, Hutchinson; H. C. Blaylock, Wichita; C. S. Brady, Atchison; E. P. Carreau, Wichita; Courtney Clark,

Wichita; K. L. Graham, Leavenworth; H. T. Gray, Wichita; G. E. Kassebaum, El Dorado; G. R. Learned, Lawrence; W. R. Lentz, Topeka; J. A. McClure, Topeka; S. C. McCrae, Salina; G. D. Marshall, Colby; R. F. Moore, Caney; C. A. Nystrom, Cawker City; R. D. Parman, Topeka; K. A. Powell, Leavenworth; R. C. Stanley, Paola; B. E. Stofer, Wichita; J. L. Stark-ey, Russell; J. R. Weaver, Wichita.

The committee on Medical Economics has been very active in carrying out the resolution from the last House of Delegates regarding our activities.

At our first meeting we obtained the services of a Professor of Insurance from the University of Kansas who presented the theory and applications of group insurance and advised the use of an insurance broker. After considerable discussion it was decided to secure the services of the Hussey Agency of Topeka. This agency was instructed to secure bids for the group accident and sickness coverage on a group basis.

At our meeting on August 16, 1964, the proposals of this broker were presented and reviewed. About the same time representatives of the Washington National Insurance Company, who underwrites our present coverage, were also present. The Washington National Company offered to: (1) Increase coverage to \$1,000 per month per individual; (2) Remove all riders in the present policies held by our members; (3) To hold a state-wide open enrollment; and (4) Offer a minimum of \$300 per month coverage for any of our members regardless of physical condition if a small enrollment quota were met.

The proposals submitted by the Hussey Agency were substantially the same as our present coverage with the Washington National Insurance Company after the changes were made. The committee felt there would be little, or no advantage to any change and so voted to continue the present coverage. The Washington National Insurance Company is now in the process of completing this enrollment.

The following are the insurance plans now endorsed in the Kansas Medical Society.

1. Accidental Death and Dismemberment.
 - A. Insurance Company of North America
Solicited by Group Plans Agency, Inc.
6225 Brookside Blvd.
Kansas City, Missouri 64113
2. Disability Income.
 - A. Washington National Insurance Company
Solicited by John Clennan Agency
202 Garlinghouse Bldg.
Topeka, Kansas
3. Life.
 - A. American United Life Insurance Company
Solicited by Otto O. Schnellbacher Agency
410 West 33rd Street
Topeka, Kansas

B. Security Benefit Life Insurance Company
Solicited by Tom Lawson Agency
700 Harrison
Topeka, Kansas

The committee has reviewed many other insurance proposals in practically every field of insurance. At the present time we can see no advantages of a group purchase of these coverages. We do not offer any approval or condemnation of any of these coverages proposed. Each member must decide for himself what he wishes to purchase.

Mr. Jim Imboden, with his prior knowledge of the insurance industry, did most of the detail work in supplying the committee with information on which to act. We appreciate his many hours of work and are extremely sorry to lose him as our leg man and advisor.

L. W. REYNOLDS, M.D., *Chairman*

MENTAL HEALTH

L. W. Hatton, Salina, Chairman; A. J. Adams, Wichita; S. C. Averill, Topeka; H. V. Bair, Parsons; R. E. Banks, Paola; A. P. Bay, Topeka; I. C. Case, Topeka; O. R. Cram, Jr., Larned; D. C. Dirks, Satanta; W. J. Gardner, Halstead; M. T. Glassen, Phillipsburg; D. C. Greaves, Kansas City; R. E. Grene, Junction City; J. A. Grimshaw, Topeka; R. A. Haines, Topeka; F. H. Harris, Wichita; Herbert Klemmer, Topeka; R. M. Lapi, Kansas City; R. W. Menninger, Topeka; H. C. Modlin, Topeka; D. A. Neher, Topeka; F. C. Newsom, Wichita; C. R. Openshaw, Hutchinson; Joseph Satten, Topeka; H. L. Schloesser, Topeka; I. J. Waxse, Oswego; H. G. Whittington, Lawrence; M. E. Wright, Lawrence; D. G. Zubowicz, Oswatomie.

In an effort to accomplish the purposes outlined by the Council of the Kansas Medical Society the members of this committee participated in:

1. AMA second National Congress on Mental Illness and Health in Chicago, November 5, 6, 7, 1964, which consisted of work shops on Community Mental Health services and resources, mobilization and orientation. The Kansas Community Mental Health facilities are favorably compared to the AMA plan.

2. Writing of a bill to be presented to the legislature relative to the care of mental illness and its treatment with improvement of definitions and hospitalization procedures in collaboration with the Judicial Council of the state legislature.

3. Recommendation for improvement of the Probate Code in the establishment of "conservators" for the estates of elderly citizens.

4. Assistance in planning for use of medical advisory boards by motor vehicle section of the department of Roads and Highways for the evaluation

of eligibility of applicants for drivers' licenses, and the revocation or renewal of the same. This was rejected in committee, but was due to be reconsidered at writing.

5. Planning for the postgraduate psychiatric education of the physician at the Kansas University Medical Center.

L. W. HATTON, M.D., *Chairman*

NECROLOGY

O. R. Clark, Topeka, Chairman; D. E. Gray, Topeka; R. Greer, Topeka; D. Lawson, Topeka; J. A. Segerson, Topeka.

The Committee on Necrology submits the following list of members of the Kansas Medical Society whose deaths have been reported since the last meeting of the House of Delegates.

<i>Name and address</i>	<i>Age</i>	<i>1964</i>
Perry A. Loyd, <i>Salina</i>	82	Jan. 13
Clinton R. Lytle, <i>McPherson</i>	91	March 20
Guy E. Martin, <i>Concordia</i>	82	March 31
William F. Abramson, <i>Topeka</i>	69	April 30
George M. Edmonds, <i>Horton</i>	60	April 29
Norman B. Fall, <i>Colorado Springs, Colo.</i>	73	April 13
B. Douglas Frierson, <i>Topeka</i>	33	April 12
Otto J. Hartig, <i>Downs</i>	63	May 30
Vernon A. Vesper, <i>Hill City</i>	65	May 18
James W. Cheney, <i>Wichita</i>	89	June 12
James D. Colt, Jr., <i>Manhattan</i>	69	June 18
Joseph G. Henning, <i>Ottawa</i>	66	June 23
Jasper M. Dickinson, <i>Coffeyville</i>	71	July 3
Tony G. Dillon, <i>Fairview (K.C., Ks.)</i>	72	July 2
Hazen L. Kirkpatrick, <i>Topeka</i>	63	July 2
Ernest C. McDonald, <i>Pittsburg</i>	82	July 29
Laurence S. Nelson, Jr., <i>Salina</i>	45	July 5
Houghton S. Albaugh, <i>Olathe</i>	71	Aug. 6
Herbert W. Jury, <i>Clasflin</i>	81	Aug. 1
Omar U. Need, <i>Oakland, Calif.</i>	87	Sept. 22
William H. Neel, <i>Muncie, Ind.</i>	87	Sept. 2
Guy A. Finney, <i>Topeka</i>	76	Oct. 29
G. William Holwerda, <i>Lindsborg</i>	63	Oct. 2
Frederick L. B. Leavell, <i>Iola</i>	85	Oct. 30
Ralph E. White, <i>Garnett</i>	60	Oct. 26
Henry B. Hogeboom, <i>Bethel Park, Pa.</i>	91	Nov. 11
George R. Lee, <i>Yates Center</i>	65	Nov. 12
Harold E. Morgan, <i>Newton</i>	58	Nov. 23
Leo J. Schaefer, Sr., <i>Salina</i>	66	Nov. 26
Maurice Snyder, <i>Salina</i>	60	Nov. 30
William R. Beine, <i>Coffeyville</i>	53	Dec. 18
Harry W. Horn, <i>Wichita</i>	90	Dec. 11
Herman Schaumloffel, <i>Kansas City, Mo.</i>	89	Dec. 16
		1965
Rolland W. Urie, <i>Parsons</i>	69	Feb. 7
Hiroshi Yasuda, <i>Anthony</i>	57	Feb. 20

NOMINATING

N. L. Francis, Wichita, Chairman; C. M. Barnes, Seneca; C. H. Benage, Pittsburg; T. P. Butcher, Emporia; L. S. Nelson, Sr., Salina; H. N. Tihen, Wichita.

The Nominating Committee met in Topeka on Sunday, January 17, 1965, and submits the following names as candidates for the elective offices of the Kansas Medical Society:

President

George E. Burket, Jr., M.D., Kingman. Born in 1912. Graduated from the University of Kansas School of Medicine in 1937. Has held various offices and was chairman of Society committees.

President-Elect

James A. McClure, M.D., Topeka. Born in 1918. Graduated from University of Kansas School of Medicine in 1944. Has served as councilor and chairman of Society committees.

First Vice President

George F. Gsell, M.D., Wichita. Born in 1907. Graduated from Rush Medical College in 1933. Has served as councilor and AMA Delegate.

Second Vice President

Ralph G. Ball, M.D., Manhattan. Born in 1903. Graduated from University of Kansas Medical School in 1927. Is currently serving as councilor.

Glenn E. Kassebaum, M.D., El Dorado. Born in 1898. Graduated from Northwestern University School of Medicine in 1923. Has served as committee chairman.

J. Warren Manley, M.D., Kansas City. Born in 1907. Graduated from University of Kansas School of Medicine in 1940. Has served as committee chairman and councilor.

John L. Morgan, M.D., Emporia. Born in 1915. Graduated from University of Pennsylvania School of Medicine in 1940. Is currently serving as councilor.

Edward F. Steichen, M.D., Lenora. Born in 1905. Graduated from Rush Medical College in 1931. Is currently serving as councilor.

Secretary

Kenneth L. Graham, M.D., Leavenworth. Born in 1921. Graduated from Ohio State University School of Medicine in 1945. Has served as committee chairman.

Leland Speer, M.D., Kansas City. Born in 1912. Graduated from the University of Kansas School of Medicine in 1936. Is currently serving as Secretary.

Treasurer

John L. Lattimore, M.D., Topeka. Born in 1894. Graduated from Fort Worth School of Medicine in 1918. Is currently serving as Treasurer.

AMA Delegate

Clyde W. Miller, M.D., Wichita. Born in 1909. Graduated from University of Louisville School of Medicine in 1936. Is currently serving as AMA Delegate.

John C. Mitchell, M.D., Salina. Born in 1913. Graduated from University of Kansas School of Medicine in 1938. Is currently serving as President.

Alternate AMA Delegate

William J. Reals, M.D., Wichita. Born in 1920. Graduated from Creighton University School of Medicine in 1945. Is currently serving as councilor and Alternate AMA Delegate.

Evan R. Williams, M.D., Dodge City. Born in 1925. Graduated from Northwestern University School of Medicine in 1952. Is currently councilor and has served on Society committees.

N. L. FRANCIS, M.D., *Chairman*

PLANS AND SCOPE

W. J. Reals, Wichita, Chairman; H. L. Bogan, Baxter Springs; F. T. Collins, Topeka; K. L. Graham, Leavenworth; C. C. Gunter, Quinter; J. W. Jacks, Pratt; J. A. McClure, Topeka; J. L. McGovern, Wellington; C. W. Miller, Wichita; J. C. Mitchell, Salina; J. L. Morgan, Emporia; R. P. Norris, Wichita; R. H. O'Donnell, Ellsworth; G. R. Peters, Kansas City; D. C. Reed, Wichita; M. E. Schultz, Russell; R. N. Shears, Hutchinson; E. F. Steichen, Lenora; M. M. Tinterow, Wichita.

The Committee on Plans and Scope met on February 14, 1965, in Emporia.

The following resolutions were prepared for consideration by the House of Delegates

JOHNSON COUNTY MEDICAL SOCIETY

WHEREAS, the Johnson County Medical Society now has a membership of 106 and is continuing to grow, and

WHEREAS, the Sedgwick, Shawnee and Wyandotte county medical societies are separate council districts, and

WHEREAS, there is no other component medical society of this size,

Therefore Be It Resolved, That Johnson County Medical Society be designated as a separate council district, and

Be It Further Resolved, That Anderson, Douglas, Franklin, Linn and Miami counties be designated as a council district, and

Be It Further Resolved, That the districts be appropriately numbered.

DISTRICT SOCIETIES

WHEREAS, some district societies lie within more than one council district, and

WHEREAS, this represents a problem for communication between the councilor and his medical societies,

Therefore Be It Resolved, That the House of Delegates direct the Council to once again recommend that the physicians in certain less populated counties reorganize into district societies and apply for charters, and

Be It Further Resolved, That when this is accomplished, the Council reorganize council districts whereby a district medical society will lie within a single council district.

REVISION OF THE BY-LAWS

WHEREAS, it has been many years since a thorough study of the By-Laws has been conducted, and

WHEREAS, the Committee on Constitution and Rules is recommending certain specific changes,

Therefore Be It Resolved, That the House of Delegates direct the Committee on Constitution and Rules to prepare a complete revision of the By-Laws to be submitted to the House of Delegates in 1966, and

Be It Further Resolved, That the above revision give special emphasis to committee structure of the Society.

SPEAKER OF THE HOUSE OF DELEGATES

WHEREAS, the 1964 House of Delegates authorized the president to appoint an interim speaker of the House of Delegates on a demonstration basis for the 1965 Annual Session, and

WHEREAS, the Committee on Constitution and Rules recommends the reorganization of the operation of the House of Delegates whereby a speaker and a vice speaker be elected by the House of Delegates whose duties shall be to preside over all sessions of that body and who shall appoint and direct the activities of reference committees, and

WHEREAS, such procedure is in effect in not less than 21 state medical societies and is currently being considered by others, and

WHEREAS, this would relieve the president of the details involved in conducting the business sessions of this Society and permit him to more adequately exercise the executive responsibilities of his office,

Therefore Be It Resolved, That this question be submitted to the House of Delegates on the basis of: Does the House of Delegates direct the Committee on Constitution and Rules to present amendments in 1966 which

would create a speaker and a vice speaker for the House of Delegates, and define their duties.

CONTINUATION OF THE COMMITTEE ON PLANS AND SCOPE

WHEREAS, this committee has submitted not less than 16 resolutions to the House of Delegates, many of which have been adopted, and

WHEREAS, there are a number of additional items which need further study, as for example:

(1) A definition of duties of the Council to the Kansas Medical Society and to the component societies in the districts;

(2) Distinguished Service Awards for physicians in the area of professional and scientific work and laymen in the areas of service to Medicine;

(3) The State Meeting format,

Therefore Be It Resolved, That the Committee on Plans and Scope be directed to continue its efforts for one more year.

WILLIAM J. REALS, M.D., *Chairman*

RELATIONS WITH RELIGION

W. P. Williamson, Kansas City, Chairman; R. E. Banks, Paola; J. H. Basham, Eureka; A. D. Burnett, Halstead; T. P. Butcher, Emporia; H. O. Bullock, Independence; J. M. Catlett, Shawnee Mission; R. F. Cavitt, Shawnee Mission; L. Cohen, Topeka; W. M. Cole, Wellington; A. W. Dahl, Colby; W. C. Goodpasture, Wichita; L. W. Hatton, Salina; J. E. Hill, Arkansas City; H. F. Janzen, Hillsboro; D. S. Lowe, Hiawatha; W. O. Martin, Topeka; J. S. Menaker, Wichita; K. A. Menninger, Topeka; C. H. Miller, Parsons; J. T. Morrow, Topeka; V. Page, Plainville; R. T. Parmley, Wichita; M. E. Pusitz, Topeka; A. K. Ratzlaff, Goessel; J. W. Rentfrow, Hays; H. R. Schmidt, Newton; W. C. Schwartz, Manhattan; B. E. Stofer, Wichita; J. E. Sweeney, Topeka; C. Thelen, Wichita; J. R. Weaver, Wichita; R. P. Woods, Topeka; W. H. Zimmerman, Topeka.

The Committee on Relations with Religion met October 11, 1964, and plans an additional meeting in April, 1965. It has dispersed resource material to its members furnished by the Department of Medicine and Religion of the American Medical Association. It is continuing its effort to organize district committees on Medicine and Religion to promote meetings of physicians and clergy at the district, county, or community level. Several successful such programs have been held. The committee is co-sponsoring a formal postgraduate course in Medicine and Religion to be held at the K. U. Medical Center October 26 and 27, 1965. It will continue further efforts to promote cooperation and mutual understanding between the medical profession and clergy in the total care of the sick.

WILLIAM P. WILLIAMSON, M.D., *Chairman*

SAFETY

R. C. Polson, Great Bend, Chairman; E. G. Anderson, Wichita; P. J. Antrim, Attica; N. C. Bos, Hutchinson; H. L. Bryant, Coffeyville; A. S. J. Clarke, Prairie Village; H. R. Draemel, Salina; A. C. Eitzen, Hillsboro; W. T. Elnen, Wichita; G. G. Ens, Hillsboro; F. A. Gans, Salina; G. L. Gill, Sterling; L. G. Glenn, Protection; J. W. Graves, Wichita; J. A. Grove, Newton; H. P. Jubelt, Manhattan; C. E. Lewis, Kansas City; D. R. Miller, Kansas City; J. H. A. Peck, St. Francis; B. W. Ramsey, Topeka; M. J. Rucker, Sabetha; W. C. Schwartz, Manhattan; H. E. Snyder, Winfield; J. M. Stein, Topeka; R. D. Warren, Hanover.

During the past year activities of the Committee on Safety have been concentrated in two major program areas—Emergency Medical Services and the Medical Aspects of Drivers Licensure.

The first, EMS, has included continuation of the "Immediate Care of the Sick and Injured" courses at selected locations throughout the state. At the time of this report five courses have been held, with a total enrollment of over 500 persons. Plans are now being made for a sixth course at the Central Kansas Medical Center in Great Bend, and future courses in the fall at Wichita and Kansas City.

A companion activity is the development of a guide for the "Immediate Care" course, as recommended in Resolution No. 41 passed by the Society's House of Delegates in May, 1964. An ad hoc subcommittee, chaired by E. G. Anderson, M.D., Wichita, was appointed in August, 1964, to supervise the preparation of this guide. Members of the subcommittee are Dr. Robert Geertsma, C. E. Lewis, M.D., and Jesse D. Rising, M.D., of K. U. Medical Center; Spencer C. McCrae, M.D., Salina; Mr. Dwight Allen and Mr. Kenneth Thompson, Wichita; and Mr. Walter Whitlow, Topeka. In addition, Mr. Arnold Lewis, medical reporter for the *Wichita Eagle* has been retained as compiler and editor of the book. The subcommittee is also investigating the availability of audiovisual materials from various sources throughout the country. These materials are being screened for use as support for instructors at future "Immediate Care" courses.

Other activities have included initiation of a statewide survey on Emergency Medical Services. Questionnaires have been sent to all ambulance operators—funeral directors, volunteers, proprietary, and city-owned—regarding their services, i.e., training of personnel, equipment, communications, etc. Additional questionnaires are being prepared for sheriffs, police and fire departments, and others concerned with emergencies in their communities. If possible, a

comprehensive survey of hospital emergency rooms will also be made. The mechanics of conducting such a survey are now under consideration. An exercise was held February 28 in Republic County, Kansas, to test the emergency medical services in that area. It was a cooperative venture with the State Health Department's health mobilization program, and included both a "normal" emergency and mass casualty care.

Resolution No. 57 called for the establishment of a Medical Advisory and Review Committee to the Kansas Motor Vehicle Department. During the past year periodic meetings have been held with members of the Society, Motor Vehicle Department, Highway Patrol, and State Department of Health to initiate such a committee. As a result of these meetings, a bill was prepared which is now being considered by the Kansas legislature. In addition to the state level meetings, representatives of the Society, State Department of Health and Motor Vehicle Department attended the first national conference on the medical aspects of drivers licensure in Chicago, November 16-18, 1964. This meeting was jointly sponsored by the American Medical Association, U. S. Public Health Service, and American Association of Motor Vehicle Administrators.

Another resolution passed by the House of Delegates in 1964 dealt with Seat Belt Regulations (Resolution No. 39). At present a bill is in the Kansas legislature requiring the installation of seat belts in all new cars sold in the state beginning with the 1966 models. It further requires that the installed belts meet GSA-SAE specifications.

Finally, the Committee on Safety will introduce appropriate resolutions for consideration by the House of Delegates to strengthen the Kansas Medical Society's participation and support in several areas of accident prevention.

R. C. POLSON, M.D., *Chairman*

SCHOOL HEALTH

C. M. Barnes, Seneca, Chairman; F. R. Applegate, Jr., Goodland; M. D. Athon, Overland Park; M. D. Atwood, Kinsley; W. F. Bernstorff, Winfield; R. D. Boles, Dodge City; V. L. Branson, Lawrence; E. C. Bryan, Erie; R. E. Bula, Hays; W. W. Burney, Wichita; E. J. Chaney, Belleville; A. C. Cherry, Topeka; W. H. Crouch, Topeka; F. A. Dlabal, Wilson; R. S. Freeman, Salina; E. S. Gendel, Topeka; E. D. Greenwood, Topeka; R. H. Greer, Topeka; R. B. Harvey, Wichita; A. J. Horejsi, Ellsworth; H. P. Jubelt, Manhattan; O. W. Longwood, Stafford; H. Lutz, Augusta; M. L. Masterson, Paola; C. T. McCoy, Hutchinson; W. E. Meyers, Iola; A. C. Mitchell, Lawrence; C. M.

Nelson, Oberlin; H. E. O'Donnell, Junction City; V. Page, Plainville; L. M. Pearce, Shawnee Mission; J. E. Randle, Bucklin; L. E. Rook, Kansas City; F. L. Smith, Colby; R. R. Snook, McLouth; R. E. Switzer, Topeka; M. A. Throckmorton, Wichita; C. O. Tompkins, Newton; T. E. Young, Topeka; S. Zweifel, Jr., Kingman.

The School Health Committee has held two meetings thus far during this year. We plan another prior to the annual meeting of the Kansas Medical Society.

Having secured the approval of the Council, we sent a questionnaire to each member of the Society concerning the sexual education problem and program. The response was quite good and our committee is going ahead with plans concerning this long neglected subject in health education. Our tabulations of the answers to the questionnaires has taken much time and thought for there are several different opinions concerning sexuality. There was also much differing concerning those to whom such teaching should be given. Only a few of the answering doctors felt that they were adequately prepared to teach this subject. As to the locations chosen for the teach-

ing of such a subject, the voting was: Wichita, Kansas City, and Manhattan.

The postgraduate symposium held at the University of Kansas Medical Center last fall was a wonderful introduction to the study of sexuality. The faculty was well chosen from nationally known educators. This symposium has been a stimulating influence to crystalizing enthusiasm concerning the teaching of sexuality.

Another problem currently under study by our committee is that of actual physical building prerequisites for schools. It has been called to our attention that there are not adequate regulations concerning the hundreds of new school buildings to be built in the coming five years. An evolution and revolution has been going on concerning school buildings. The least important of these changes is desegregation. New health findings and general rapid scientific progress calls for many improvements in the new structures. Please give us the benefit of your own thinking in this reference as well as on the teaching of sexuality.

CONRAD M. BARNES, M.D., *Chairman*

KANSAS STATE DEPARTMENT OF HEALTH

TOPEKA, KANSAS

Division of Preventable Diseases—Division of Vital Statistics—Kansas Morbidity Incidence
Summary of Cases Reported in December, 1964 and 1963

Diseases	December			January to December Inclusive		
	1964	1963	5-Year Median 1960-1964	1964	1963	5-Year Median 1960-1964
Amebiasis	1	4	4	27	93	68
Aseptic meningitis	1	—	1	26	—	26
Brucellosis	—	1	1	6	8	26
Cancer	541	592	531	4,667	4,878	4,667
Diphtheria	—	4	—	3	4	2
Encephalitis, infectious	5	2	2	86	21	31
Gonorrhea	251	195	204	3,118	2,901	2,809
Hepatitis, infectious	36	72	36	634	314	422
Meningococcal meningitis	3	2	2	12	15	14
Pertussis	—	15	5	15	88	44
Poliomyelitis	—	—	—	1	—	1
Rheumatic fever	1	—	—	4	—	4
Salmonellosis	14	39	10	285	309	285
Scarlet fever	41	18	41	151	314	484
Shigellosis	22	52	3	280	125	137
Streptococcal infections	311	318	279	1,853	1,713	1,560
Syphilis	101	80	100	933	1,055	1,153
Tinea capitis	8	15	15	82	77	133
Tuberculosis	16	29	16	251	283	270
Tularemia	2	3	2	7	22	22
Typhoid fever	—	—	—	3	2	3



Personalities—IN KANSAS MEDICINE

E. W. Hellweg announced his retirement effective the first of March, ending 42 years of practice in Arkansas City.

Nine southeast Kansas counties conducted a regional workshop for the cancer crusade in Parsons in February. **Albert Bair**, Independence, a member of the board of directors of the Kansas division of the American Cancer Society was the guest speaker.

In February, **Hughes W. Day**, Kansas City, travelled to Boston where he spoke before the American College of Cardiology. He then went to San Francisco to address the San Francisco Heart Association. Dr. Day is director of the Hartford cardiac intensive care unit at Bethany Hospital in Kansas City.

The appointment of **Luis J. Ibarra**, El Dorado, as director of the Butler County Counseling and Mental Health Center was recently announced.

A \$260,000 grant for a program of research and training in the biology of reproduction has been awarded KUMC by the Ford Foundation. **Kermit E. Krantz**, Kansas City, is principal investigator and program director for the Ford funds.

Thomas Butcher, Emporia, discussed Medicare at a meeting of the American Association of Retired Persons held in Emporia last month.

George E. Burket, Jr., Kingman, attended a

board of directors meeting of the American Academy of General Practice in Las Vegas in February. He also met with the education commission of the AMA.

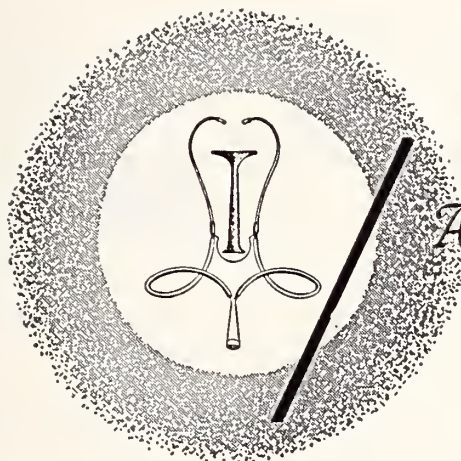
Four Kansas City physicians participated in the program at the meeting of the American College of Surgeons in Seattle in March. **Stanley R. Friesen**, **Francis W. Masters** and **Hubert M. Floersch** took part in panel discussions and **William L. Valk** presented a paper.

Victor M. Eddy, Hays, was the guest speaker at the quarterly district meeting of the Kansas Society of X-ray Technologists. Dr. Eddy spoke on "Arteriography" at the meeting held in Hays last month.

The recipe for "Kansas Catfish en Papillote," created by **Don C. Wakeman**, Topeka, was judged third grand prize winner in the *Topeka Capital-Journal's* family recipe contest. It was awarded first place in the meat, poultry and fish category.

The exceptional child was discussed at the third meeting of the Sunflower chapter of the Council of Exceptional Children held in Topeka in February. Topeka physicians participating in the program were **Roy Menninger**, **T. E. Young**, and **Arthur Hoyt**.

Milton A. Classen, who recently completed a four-year residency in orthopedic surgery, is now associated with the Bethel Clinic in Newton. Dr. Classen was in general practice in Newton before beginning his residency.



Announcements

Professional meetings, conferences, and postgraduate courses of national importance are listed for the DOCTOR'S CALENDAR. Notice of the session is posted in advance to allow the physician time to make preparations.

The Kansas Chapter of the American College of Surgeons is sponsoring an essay contest among the residents in surgical training in the state of Kansas. Of the essays submitted before June, 1965, the winner will receive \$200 from the Kansas Chapter of ACS. It is hoped that the winner will use this money to travel to the national meeting of the American College of Surgeons, wherever it may be in the United States. The essay is to be presented to the Kansas Chapter of the American College of Surgeons at their meeting on October 31, 1965, in Wichita, Kansas.

The Part II examination of the American Board of Obstetrics and Gynecology will be conducted for all candidates at the Edgewater Beach Hotel, Chicago, April 26-May 1, 1965. New and reopened applications and requests for re-examination in the Part II examination for 1966 will be accepted in the office of the secretary during April and May, 1965. Candidates are reminded that duplicate lists of patients dismissed from their service during the 12 months immediately preceding April 1, 1965, must accompany application or request to take the examination. Bulletins outlining requirement and application forms may be obtained by writing Clyde L. Randall, M.D., Secretary, American Board of Obstetrics and Gynecology, 100 Meadow Road, Buffalo, New York 14216.

Papers will be accepted up to May 15, 1965, by the Section of Ophthalmology of the Southern Medical Association for their annual meeting to be held in Houston in November. A title and brief abstract should be sent to the secretary, Dr. George S. Ellis, 812 Maison Blanche Building, New Orleans 70116.

The American Society of Oral Surgeons has announced that two cash awards (first prize \$300; second prize \$200) will be presented at the 47th annual meeting in Denver, November 2-6, 1965. These awards will be for superior, original unpublished manuscripts concerning any phase of the research related to oral surgery completed during the current year. Individuals inter-

ested should write to the American Society of Oral Surgeons, 919 North Michigan, Chicago, for further information.

MAY

- May 10-13 Annual Session, Kansas Medical Society, Hutchinson.
- May 10-13 Southwestern Surgical Congress, Velda Rose Hotel, Hot Springs, Arkansas.
- May 14-16 12th Western Cardiac Conference, Broadmoor Hotel, Colorado Springs. For further information: Colorado Heart Association, 1375 Delaware St., Denver 80204.
- May 27 16th annual Dr. F. G. Thompson, Sr., Lectureship, Thompson-Brumm-Knepper Clinic, St. Joseph, Missouri. Dr. Stephen E. Reid, M.D., Northwestern University Medical School will speak on the subject "Radiotelemetry in the Study of Head Injuries in Football and Other Associated Athletic Injuries."

JUNE

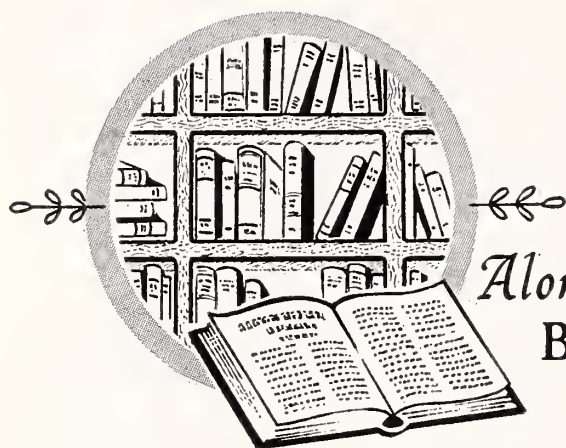
- June 6-11 Golden Jubilee Catholic Hospital Association Convention, Kiel Auditorium, St. Louis. For information write the CHA, 1438 S. Grand Blvd., St. Louis 63104.
- June 16 Symposium on Hormones and Chemotherapy for Cancer—a Critical Appraisal, Sponsored by the American Cancer Society, Drake Hotel, Philadelphia. Write Director of Professional Education, American Cancer Society, 219 E. 42nd St., New York 10017 for further information.

POSTGRADUATE COURSES

American College of Physicians.

- Apr. 26-30 *Cardiopulmonary Diseases*, Denver.

(Continued on page 226)



Along The BOOKSHELF

Clendening Medical Library

Recent Acquisitions

- Advances in chemotherapy. v. 1. Academic, 1964.
- Barry, V. C., ed. Chemotherapy of tuberculosis. Butterworths, 1964.
- Bishop, C. W. and Surgenor, D.M., eds. The red blood cell; a comprehensive treatise. Academic, 1964.
- Blake, T. M. An introduction to electrocardiography. Appleton-Century-Crofts, 1964.
- Blodi, F. C., Allen, Lee, and Braley, A. E. Stereoscopic manual of the ocular fundus in local and systemic disease. Mosby, 1964.
- Carter, A. B. Cerebral infarction. Pergamon, 1964.
- Dreiling, D. A., Janowitz, H. D., and Perrier, C. V. Pancreatic inflammatory disease, a physiologic approach. Harper & Row, 1964.
- Eysenck, H. J., ed. Experiments in behaviour therapy. . . . Pergamon, 1964.
- Garb, Solomon and Eng, Evelyn. Disaster handbook. Springer, 1964.
- Goldberger, Joseph. Goldberger on pellagra. Louisiana State Univ., 1964.
- Gordon, Maxwell, ed. Psychopharmacological agents. v. 1. Academic, 1964.
- Gottlieb, L. S. A history of respiration. Thomas, 1964.
- Howorth, M. B. and Petrie, J. G. Injuries of the spine. Williams & Wilkins, 1964.
- Hughes, W. T. Pediatric procedures. Saunders, 1964.
- International Symposium on Pulsatile Blood Flow. 1st, Philadelphia, 1963. Pulsatile blood flow; proceedings. McGraw-Hill, 1964.
- International Congress on the Clinical Application of Hyperbaric Oxygen. 1st, Amsterdam, 1963. Clinical application of hyperbaric oxygen; proceedings. Elsevier, 1964.
- Jennett, W. B. An introduction to neurosurgery. Thomas, 1964.
- Jokl, Ernst. Physiology of exercise. Thomas, 1964.
- Leavitt, H. J. and Pondy, L. R., eds. Readings in managerial psychology. Univ. Chicago, 1964.
- Licht, S. H., ed. Medical climatology. Licht, 1964.
- Lieberman, A. L. Case capsules; the droll, diverting, devilish, definitely different. Thomas, 1964.
- Meerloo, J. A. M. Illness and cure; studies on the philosophy of medicine and mental health. Grune & Stratton, 1964.
- Murphy, E. G. The chemistry and therapy of disorders of voluntary muscles. Thomas, 1964.
- Myerson, M. C. The human larynx. Thomas, 1964.
- Nash, E. M., Jessner, Lucie, and Abse, D. W., eds. Marriage counseling in medical practice; a symposium. Univ. North Carolina, 1964.
- National Research Council. Committee on Toxicology. Principles and procedures for evaluating the toxicity of household substances. N.A.S.-N.R.C., 1964.
- Piller, L. W. Manual of cardiopulmonary technology. Thomas, 1964.
- Reuter, H. J. Atlas of urologic endoscopy. . . . Saunders, 1964.
- Riedel, D. C. and Fitzpatrick, T. B. Patterns of patient care; a study of hospital use in six diagnoses. Univ. Michigan, 1964.
- Rimland, Bernard. Infantile autism. . . . Appleton-Century-Crofts, 1964.
- Rouček, J. S., ed. The difficult child. Philosophical Library, 1964.
- Rusk, H. A. Rehabilitation medicine . . . 2d ed. Mosby, 1964.
- Sani, Guelfo, Citti, Ugo, and Carramazza, Giuliano. Fluorescence microscopy in the cytodagnosis of cancer. Thomas, 1964.
- Schobinger, R. A. and Ruzicka, F. F., eds. Vascular roentgenology; arteriography; phlebography; lymphography. Macmillan, 1964.
- Selye, Hans. From dream to discover; on being a scientist. McGraw-Hill, 1964.

(Continued on page 226)



Book REVIEWS

CARDIAC ARREST AND RESUSCITATION by Hugh E. Stephenson, Jr., Professor of Surgery, Missouri School of Medicine, Columbia, Missouri. C. V. Mosby Company, St. Louis, 1964. 501 pages illustrated. \$15.

This represents the most complete review of this general subject now in publication. The complete and interesting history of the subject is recommended as pleasant reading. The book contains a great deal of physiologic information, many practical techniques and complete sections on the actual management of cardiac arrests.

While this was not a book for every personal library, this probably should be available to every hospital which attempts to set up cardiac arrest teams, and particularly in the library of those who are teaching nurses, interns and other physicians in this general field.

The book is attractively printed, rather well organized and has good quality illustrations.—*E.W.C.*

MASSAGE, PRINCIPLES AND TECHNIQUES by Gertrude Beard and Elizabeth C. Wood. W. B. Saunders Company, Philadelphia, 1964. 163 pages illustrated. \$6.

This book makes an effort to bring together, in one place, a complete history of massage, its principles, its effects, and its basic techniques. The authors also offer modifications of the two most widely practiced and taught systems of massage; the Ling System and the Hoffa System. The arrangement, compactness and readability of the book makes the material an easy source of information. It would be an ideal textbook for a physical therapy student who is entering the professional courses.

I feel, however, the material is too general to be

of much use to the physician unless he is hearing of massage for the first time. This book does not give specific conditions for which massage would be indicated or contraindicated nor does it tell what massage movements would be the most effective for these conditions.

The topic of the book is covered completely in so far as it went, but I would not recommend it as a reference book.—*N.R.*

OCULAR AND ADNEXAL TUMORS, by Milton Boniuk, M.D., Editor. Symposium sponsored by Department of Ophthalmology, Baylor University College of Medicine, C. V. Mosby Company, St. Louis, 1964. 552 pages illustrated. \$25.00.

A compilation of papers and discussion by a group internationally known in the fields of ocular pathology, radiation therapy, surgery of ocular tumors and allied fields. The symposium was sponsored by Baylor University in November, 1962. The book is divided into four sections; tumors of the conjunctiva and lid, retinoblastoma, pigmented ocular tumors, and orbital tumors.

The papers are clinically orientated, concise and timely. The discussions that follow each section are sometimes sharp, always pertinent and point out the difference of opinion that exist among the experts regarding diagnosis, classification and treatment of many of these conditions.

I believe this is an excellent text for everyone in Ophthalmology. Many of us do not undertake to treat these conditions ourselves. However, in order to make an early and correct diagnosis and intelligently advise our patients, a clear understanding of these problems is necessary for they turn up in everyone's practice.—*B.J.A.*

Announcements*(Continued from page 223)*

May 24-26 *Current Concepts in Gastroenterology*,
Montreal, Que., Canada.

For additional information and registration write Edward C. Rosenow, Jr., M.D., The American College of Physicians, 4200 Pine Street, Philadelphia 19104. Tuition Fees: Members, \$60; Nonmembers, \$100.

University of Colorado:

Apr. 26-30 *Cardio-Pulmonary Diseases* (ACP Course)

June 14-16 *Religion and Medicine Conference*, Estes Park.

For further information write Office of Postgraduate Medical Education, University of Colorado School of Medicine, 4200 E. 9th Ave., Denver 80220.

University of Kansas:

Apr. 21-23 *Anesthesiology*

May 3-4 *Cardiac Auscultation*
Otorhinolaryngology

Write the Department of Postgraduate Medical Education, University of Kansas Medical Center, Rainbow Blvd. at 39th, Kansas City, Kansas 66103.

Apr. 28-May 1 *Trauma*

The Chicago Committee on Trauma of the American College of Surgeons, Chicago (acceptable for 31½ hours of Category II credit by the AAGP). Registration \$75. Write John J. Fahey, M.D., 1791 Howard Street, Chicago 60626.

May 24-25 *Pediatric Aspects of Surgery in Childhood*, Dept. of Pediatrics, Univ. of Cincinnati College of Medicine. Address inquiries to Dr. Wm. Schubert, The Children's Hospital, Cincinnati.

Bookshelf*(Continued from page 224)*

Slooff, J. K., Kernohan, J. W., and MacCarty, C. S. Primary intramedullary tumors of the spinal cord and filum terminale. Saunders, 1964.

Symposium on Scintillation Scanning in Clinical Medicine, Wake Forest College, 1964. Scintillation scanning in clinical medicine. Saunders, 1964.

U. S. Communicable Disease Center, Atlanta. Venereal Disease Branch. Management of chancroid, granuloma inguinale, lymphogranuloma venereum in general practice. U. S. Govt. Print. Off., 1964.

U. S. Communicable Disease Center, Atlanta. Venereal Disease Research Laboratory, Chamblee, Ga. Serologic tests for syphilis. . . . U. S. Govt. Print. Off., 1964.

Whittam, R. Transport and diffusion in red blood cells. Williams & Wilkins, 1964.

Wiseman, Gerald. Absorption from the intestine. Academic, 1964.

NEW MEMBERS

The JOURNAL takes this opportunity to welcome these new members into the Kansas Medical Society.

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The Hertzler Clinic
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Edward N. Humston, M.D.
112 East Central
Arkansas City, Kansas

Donald R. Tucker, M.D.
K.U. Medical Center
Kansas City, Kansas

Eugene F. McManus, M.D.
1317 Wheat Road
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Virginia L. Tucker, M.D.
K.U. Medical Center
Kansas City, Kansas

Andrew Nachtigall, M.D.
201 South Pine
Newton, Kansas

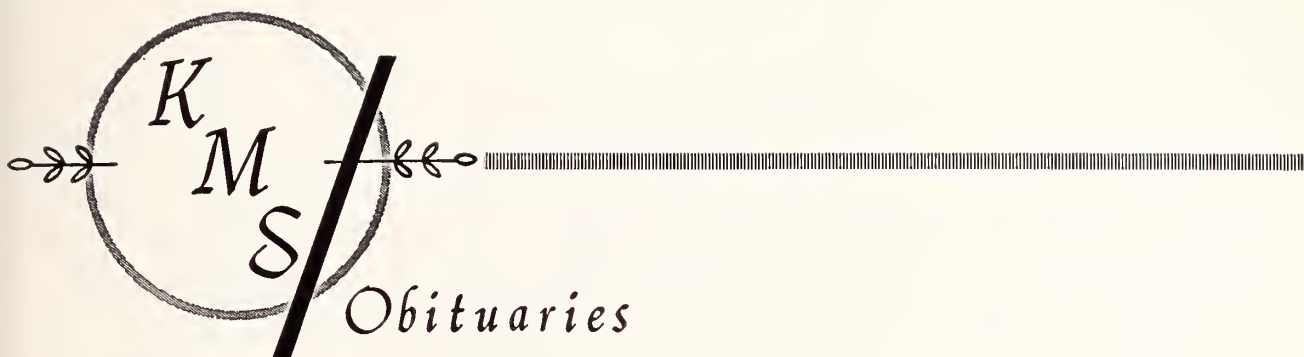
Harry H. White, M.D.
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ROLLAND W. URIE, M.D.

Rolland W. Urie, Parsons radiologist, died at his home in Parsons on February 7, 1965. He was 69 years old.

Dr. Urie was born on March 22, 1895, at Ramona. He attended Southwestern College at Winfield and received his medical degree from the University of Kansas School of Medicine in 1923. After interning in Kansas City, he came to Parsons to begin his practice in 1924.

He was co-founder of the Parsons Clinic, established in 1945, and he was also active in founding the Parsons Cancer Control Association shortly after World War II. Dr. Urie was active in community organizations, and served on the city's board of education for many years.

Survivors include his wife, two daughters and a son.

HIROSHI YASUDA, M.D.

Hiroshi Yasuda, 57, died on February 20, 1965, at his home in Anthony.

Dr. Yasuda was born September 21, 1907, at Kealahou, Kona, Hawaii. He was graduated from the University of Hawaii, and earned his degree in medicine from Tulane University in New Orleans in 1935. After interning in a Wichita hospital, Dr. Yasuda entered practice in Hardtner in 1936 and remained there until he moved to Anthony in 1957. He was associated with the hospital and clinic there until his recent retirement.

He is survived by his wife and two daughters.

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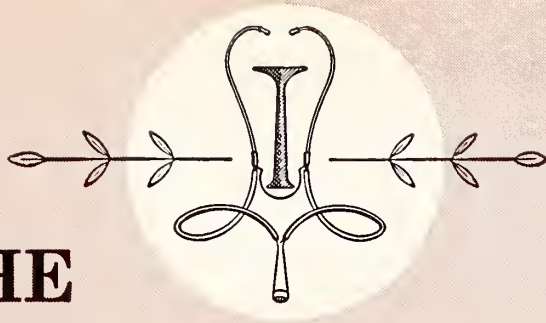
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Student Thesis

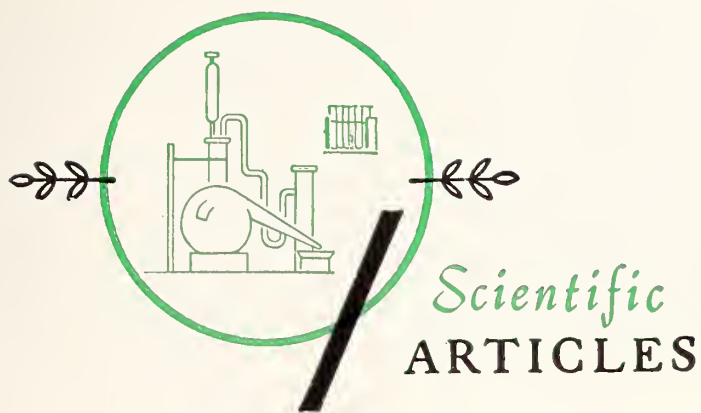
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The New Disease . . .

The Etiology and Prognosis of Gram-Negative Bacteremias

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ANTIMICROBIAL DRUGS have produced an increase in the relative morbidity and mortality attributable to certain infectious organisms. The incidence of staphylococcal infections has varied little during the past years.¹ However, infections caused by gram-negative bacilli or enterobacteria have been increasing in incidence and severity.² Recent data from the infectious disease surveillance system at this institution have indicated that infections of the urinary tract due to such organisms are now the most common type of nosocomial infection.

This report is concerned with the incidence and clinical characteristics of gram-negative bacteremias caused by *Escherichia coli*, *Aerobacter aerogenes*, *Paracolon*, *Proteus* and *Pseudomonas* organisms in patients at the University of Kansas Medical Center during the five year period from 1958 to 1962.

Methods

The records of the Bacteriology Department of the Clinical Laboratories were reviewed for all blood cul-

Although the incidence of staphylococcal infections has varied little during the past years, infections caused by gram-negative bacilli or enterobacteria have been increasing. Presented here are the results of a study concerning the incidence and clinical characteristics of the disease as observed during a five-year period at the University of Kansas Medical Center.

tures positive for *E. Coli*, *Aerobacter aerogenes*, *Paracolon*, *Proteus* and *Pseudomonas*. The hospital records of patients thus identified were reviewed. Only those patients who had clinical as well as laboratory evidence of a gram-negative bacteremia were included. Those with a transient bacteremia or contaminated cultures were excluded from the study.

Administrative and identifying data as to age, sex and race were recorded. The nature of the underlying disease process as well as a history of an operative or manipulative procedure prior to the onset of bacteremia was recorded. An attempt was made to determine whether the bacteremia was acquired in or

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out of the hospital, as well as the portal of entry of the organisms into the blood stream.

Clinical data regarding fever and its duration, chills, heart rate, gastrointestinal symptoms, shock and oliguria were noted. Laboratory data recorded included white blood count, hemoglobin and hematocrit, blood urea nitrogen and electrolytes before, during and after the bacteremia.

Positive cultures on specimens other than blood were noted as well as the results of antibiotic sensitivity tests. Information regarding the type and amount of antibiotics, adrenal corticosteroids, antimetabolites, radiation and vasopressors used was listed.

Results

MORTALITY RATES

As noted in Table 1 there was a total of 180 cases for this five year period which met the criteria as outlined. The overall mortality was 48 per cent.

TABLE 1 DISTRIBUTION OF PATIENTS ACCORDING TO YEAR				
Year	Patients	Recovered	Died	Per Cent Died
1958	21	8	13	62
1959	37	22	15	40.5
1960	29	15	14	48
1961	49	27	22	45
1962	44	22	22	50
Total	180	94	86	48

Twenty out of 42, or 48 per cent, of the infants died. Of the 55 patients who developed hypotension, 36, or 66 per cent expired. Of the rest of the patients over two years of age and who did not develop shock, 30 of 84 died, giving a mortality rate of 38 per cent. Figure 1 demonstrates the incidence as well as the mortality rate of patients with gram-negative bacteremias per 1,000 hospital admissions. Table 2 shows the distribution of cases according to age of patient and the organism responsible. Escherichia coli was the most common infecting agent. This accounted for one third of the cases.

The highest fatality rates occurred in patients infected with either Aerobacter aerogenes or Pseudomonas (65 per cent). Sixteen of the patients had a mixed bacteremia with two or more of these or-

ganisms. In other words, almost nine per cent of the series had a mixed bacteremia. There was no significant difference between the sexes with regard to incidence. However, 55 per cent of males, in contrast to 39 per cent of females, ultimately succumbed to their infection.

Table 3 shows the distribution of cases according to age. The highest mortality rates occurred in those patients under ten and over 50 years of age. The largest number of cases occurred in the group less than one year of age. Twenty deaths occurred among 42 cases. Twenty-eight of these were newborns and of this group 18 were born prematurely.

PREDISPOSING FACTORS

There was no significant difference in the distribution of cases with regard to the time of onset, either by season or month of the year. Table 4 illustrates the distribution according to the underlying disease process. Thirty-seven or 20 per cent of the patients had underlying malignant disease. Nineteen or approximately half of this group, were suffering from leukemia or lymphoma. The only group without a fatality was composed of gynecology patients who

FIGURE 1

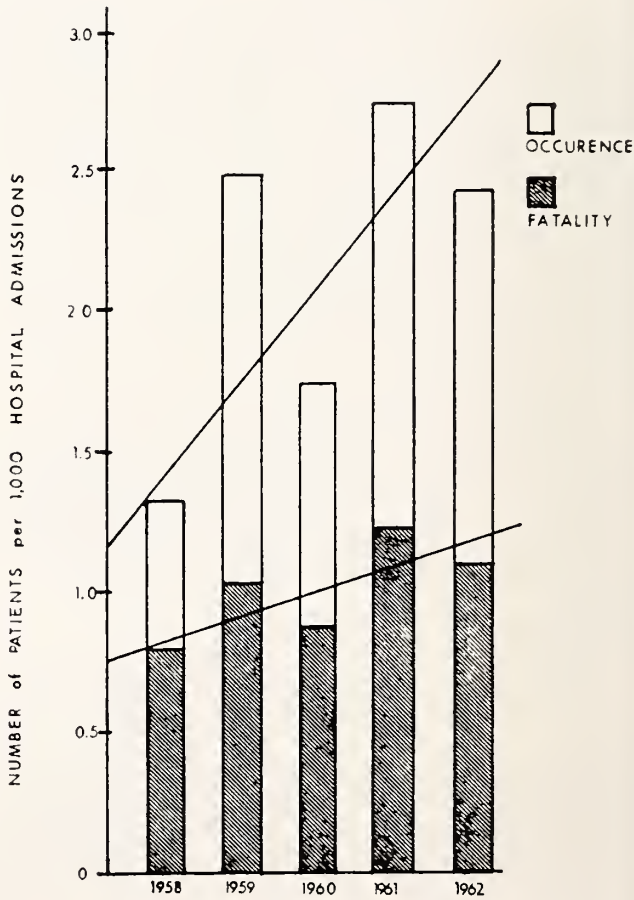


TABLE 2
DISTRIBUTION ACCORDING TO AGE
AND AGENTS

Age	Total	<i>E. coli</i>	<i>A. aero.</i>	<i>Paracolon</i>	<i>Pseudo.</i>	<i>Proteus</i>	<i>Mixed</i>
Newborn ..	33	12	4	5	4	3	5
<1	9	3	3	0	0	1	2
2-9	15	3	2	2	6	0	2
10-19	4	2	0	1	1	0	0
20-29	16	6	2	1	2	3	2
30-39	16	8	2	3	1	1	1
40-49	16	1	7	3	5	0	0
50-59	23	9	5	4	4	1	0
60-69	16	5	3	2	2	3	1
70-79	21	5	7	3	1	4	1
80-89	9	5	0	2	0	0	2
90 +	2	0	0	0	0	0	0
Total	180	59	37	26	26	16	16
Per Cent of Total ..		33	20.6	14.4	14.4	9	9
Died	86	21	24	9	17	6	9
Per Cent Mortality ..	48	36.6	65	35	65	37.5	56

were hospitalized because of the complications of septic abortions. Diabetes was an underlying disease process in only four per cent of cases.

Table 5 relates the portal of entry and the operative status of the patient with regard to previous sur-

TABLE 3
MORTALITY ACCORDING TO AGE

Age	Patients	Recovered	Died	Per Cent Died
0-1	42	22	20	47.6
2-9	15	5	10	33
10-19	4	3	1	25
20-29	16	11	5	31
30-39	16	11	5	31
40-49	16	9	7	44
50-59	23	11	12	52
60-69	16	8	8	50
70-79	21	7	14	67
80-89	9	7	2	22
90 +	2	0	2	100
Total	180	94	86	48

gical procedures to the outcome of the disease. Eighty-two or 66 per cent of patients (excluding those under two years of age) had surgery prior to the onset of bacteremia. Fifty-six did not. The genitourinary tract was the portal of entry in 62 (34 per cent) of patients over two years of age. Thirty-four of these (55 per cent) had prior surgery. The gastrointestinal tract was the portal of entry in 35 patients, with 20 (56 per cent) of these having undergone previous surgery. In 15 of the patients no portal of entry could be determined. Most of these patients were suffering from leukemia. Of the 82 patients who

TABLE 4
DISTRIBUTION ACCORDING TO
UNDERLYING DISEASE PROCESS

Disease	Patients	Recovered	Died
Neoplastic			
Leukemia	19	4	15
G.I.	8	2	6
G.U.	6	5	1
Resp.	2	1	1
Misc. Ca.	2	0	2
Diabetes	7	5	2
Renal	26	17	9
Lower G.U.	3	1	2
Gyn	11	11	0
G.I.	27	14	13
Resp.	6	5	1
C.V.	6	4	2
Traumatic	16	7	9
Disease Newborn			
Prematurity	18	6	12
Other	10	6	4
Miscellaneous	13	6	7
Total	180	94	86

had prior surgical procedures 39 or 47 per cent succumbed. Of the 56 that had not been operated upon, 27 or 48 per cent died.

Table 6 demonstrates the distribution and mortality of hospital-acquired and non-hospital acquired bacteremias according to the clinical services upon which they were treated. Medical services were defined to include medicine and pediatrics. The "surgical services" include general surgery, urology, obstetrics and gynecology, plastic surgery, neurosurgery and orthopedic surgery. There were 122 hospital-acquired gram-negative bacteremias of which 57 or 47.6 per cent ultimately succumbed. Fifty-eight or 32 per cent were acquired before coming to the hospital; 29 or 50 per cent of these died. The mortality was in gen-

TABLE 5
DISTRIBUTION ACCORDING TO PORTAL
OF ENTRY AND OPERATIVE STATUS

<i>Portal of Entry</i>	<i>Lived</i>		<i>Died</i>		<i>Total</i>	<i>Total Per Cent</i>
	NO SURG.	POST OP.	NO SURG.	POST OP.		
G.U. Tract	20	24	6	12	62	34
G.I. Tract	7	9	7	12	35	19
Resp.	8	4	9	6	27	15
Skin	5	5	3	7	20	11
<i>In Utero</i>	9	0	12	0	21	12
Unknown	2	1	10	2	15	9
Total	51	43	47	39	180	

TABLE 6
FREQUENCY AND FATALITY OF HOSPITAL-ACQUIRED AND
NON-HOSPITAL-ACQUIRED GRAM-NEGATIVE BACTEREMIA

<i>Organism</i>	NO.	<i>*Medical Services</i>		NO.	<i>†Surgical Services</i>	
		RECOVERED	DIED		RECOVERED	DIED
Escherichia						
Hosp. Acquired ..	20	11	9	16	13	3
Non-Hospital	15	7	8	7	6	1
Aerobacter						
Hosp. Acquired ...	13	5	8	13	3	10
Non-Hospital	9	4	5	2	1	1
Paracolon						
Hosp. Acquired ..	8	5	3	9	7	2
Non-Hospital	6	3	3	3	2	1
Pseudomonas						
Hosp. Acquired ...	6	1	5	13	6	7
Non-Hospital	7	2	5	—	—	—
Proteus						
Hosp. Acquired ...	6	4	2	6	4	2
Non-Hospital	1	—	1	3	2	1
Mixed 2 or More						
Hosp. Acquired ..	7	4	3	5	2	3
Non-Hospital	2	—	2	3	2	1
Total						
Hosp. Acquired ...	60	30	30 (50%)	62	35	27 (44%)
Non-Hospital	40	16	24 (60%)	18	13	5 (28%)
Total	100	46	54 (54%)	80	48	32 (40%)

* Medicine = Medicine, Pediatrics.
† Surgery = General Surgery, Urology, OB-GYN, Plastic Neurosurgery, Orthopedics

eral higher on the medical services than on the surgical services.

CLINICAL DATA (Applies only to 138 patients over one year of age)

One hundred nineteen patients or 85 per cent had fever in excess of 102°F. Twelve patients had a fever of between 101-102°. (Of the newborns, 21 were afebrile.) The duration of fever was usually two days or more. Thirty-eight patients had spiking temperatures for over one week. Chills were noted in 117 patients. Of the patients in whom heart rates were recorded, 102 had a tachycardia of 100 to 140 and 36 had heart rates over 140. Nausea and vomiting were noted in 48 patients and 18 had nausea, vomiting and diarrhea. A blood pressure of less than 90/60 in adults or a decrease of 70 mm Hg. in hypertensive patients were regarded as criteria for a diagnosis of "shock" in this study. Fifty-five, or 40 per cent of patients over one year of age had such a fall in blood pressure. Thirty-six or 66 per cent of these died. Oliguria, or a urine output of less than 500 ml of urine per day, was recorded in 27 patients; 18 or 66 per cent of these patients died.

LABORATORY DATA

Table 7 lists the sources of positive cultures other than blood. Forty-seven patients had a positive culture of the urine. Of the patients who had white blood count determinations recorded during their bacteremia 45 per cent had values from 10,000 to 20,000 white cells per cubic mm. An additional 43 per cent showed an increase to greater than 20,000 per cubic mm. Twenty patients had a leukopenia of less than 5,000 cells per cmm.³ Most of these had been receiving corticosteroids or antimetabolites; three were newborns. Only one patient with a *Pseudomonas* bacteremia had a leukopenia of 2,260 cells per cmm. This later rose to 9,600. All of the other patients with bacteremias due to *pseudomonas* had a leukocytosis.

Twenty-one patients had determination of blood urea nitrogen during their bacteremia which gave values in the range of 25 to 50 mg per cent. Twelve

of these were associated with hypotension, and two with hypotension and oliguria. Thirty-two patients had BUN values above 50 mg per cent; twelve had hypotension and oliguria, four had oliguria and three had demonstrated hypotension alone. Of patients who had determinations of serum electrolytes before and during the bacteremia, 50 per cent demonstrated a fall in the concentration of sodium; 38 per cent had a decrease in chloride and 41 per cent a decrease in carbon dioxide. Twenty patients demonstrated a low concentration of potassium in the serum and 17 had an elevated concentration of potassium (normal range 3.5 to 5.5 mEq. per liter).

Table 8 demonstrates the results of tests of sensitivity to antibiotics by the disc method. In this laboratory two discs, one with a high concentration and one with a low concentration of an antibiotic were used. Those organisms showing rings of inhibition of growth around both discs are regarded as "sensitive." Those with a ring of inhibition of growth around the high concentration only are regarded as "moderately resistant." Those with no inhibition of growth are recorded as "resistant." All of the organisms were resistant to penicillin, although it was commonly used in combination with other antibiotics in treating these patients. Most of the strains of *E. coli* tested were relatively sensitive *in vitro* to streptomycin, tetracyclines and chloramphenicol. Aerobacter aerogenes, *Paracolon* and *Proteus* species showed more resistance. Chloramphenicol was the most effective inhibitor of the growth of these organisms. Polymyxin was the only antibiotic tested which demonstrated consistent inhibition of the growth of *Pseudomonas*.

THERAPY

The organisms from 67 patients were either "sensitive" or "moderately resistant" (by the disc sensitivity method) to the antibiotic used. Sixty-six per cent of these patients recovered. The bacteria cultured from the blood of 40 patients showed "resistance" to the antibiotics utilized; 65 per cent of these patients recovered. Penicillin and chloramphenicol were used in 28 patients with a recovery rate of 54 per cent. Eight out of 16, or 50 per cent of patients treated with streptomycin and penicillin recovered. Twelve patients received penicillin, streptomycin and chloramphenicol and seven or 56 per cent recovered.

Fifty-two (29 per cent) were receiving one or more antibiotics at the time of the onset of their gram-negative bacteremia. Of this group 29 per cent were receiving penicillin. Twenty-two patients were receiving adrenal corticosteroids, ten were being treated with antimetabolites, and three with radiation at the time of onset of bacteremia.

TABLE 7
OTHER POSITIVE CULTURES

Urine	47
Wound	23
Sputum	10
CSF	4
Nose and Throat	16

TABLE 8
RESULTS OF ANTIBIOTIC SENSITIVITY TESTS

<i>Organism</i>	<i>Result</i>	<i>Strepto- mycin</i>	<i>Tetra- cycline</i>	<i>Chloram- phenicol</i>	<i>Poly- myxin</i>	<i>Colistin</i>	<i>Neo- mycin</i>	<i>Kana- mycin</i>
E. Coli (34 cases)	S	11	10	16				
	MR	16	16	16				
	R	7	8	2				
A. Aero (28 cases)	S	6	8	11				
	MR	6	5	6				
	R	16	15	11				
Paracolon (15 cases)	S	3	2	4				
	MR	5	7	7				
	R	7	6	4				
Psseudomonas (17 cases)	S	—	1	2	8	2		
	MR	5	3	3	4	1	7	3
	R	12	13	12			3	
Proteus (12 cases)	S	1	—	4				
	MR	5	4	4				
	R	6	8	4				
Mixed (5 cases)	S	1	1	2				
	MR	—	1	—				
	R	4	3	3				

S = Sensitive

MR = Moderately Resistant

R = Resistant

Recovery rates of patients with hypotension who were treated with various combinations of vasopressors or adrenal corticosteroids are demonstrated in Table 9. Thirteen patients received neither vasopressors nor corticosteroids.

In general the mortality was higher in those groups who received vasopressors, or vasopressors and moderate doses of adrenal corticosteroids. Only two patients were treated with high doses of adrenal corticosteroids and vasopressors and one of them recovered.

CHARACTERISTICS OF PATIENTS WHO DEVELOPED SHOCK

The development of hypotension is an ominous sign in patients with a gram-negative bacteremia. Therefore, the characteristics of the 55 patients who developed shock were contrasted to similar data on the 83 patients who did not become hypotensive. It will be noted in Table 10 that the occurrence of shock was not related to whether or not the patient had had surgery, or whether or not the infection was acquired in or out of the hospital. It is demonstrated in Table 11 the organism responsible did not seem to be associated with the development of shock. Patients

infected with *Aerobacter aerogenes* had a high incidence of hypotension. However, an analysis of heterogeneity was done for the significance for all the data in this table. X^2 was found to be 5.69. The probability that the distribution in this 2 x 6 contingency table is related to the various causative organisms is approximately 0.2.

The age of the patient did not seem to be related to the occurrence of shock and its outcome. These data are presented in Table 12. Also, no significant difference was noted between those who developed shock and those who did not with regard to the portal of entry. In both groups infections due to *Pseudomonas* involved first the respiratory tract or the skin, and subsequently invaded the blood stream.

Discussion

In general the results of this study agree with those of others which have indicated an increasing incidence of gram-negative bacteremias among hospital patients.^{3, 4} Although the incidence of bacteremias due to gram-negative organisms at this institution appears to be rising, the annual mortality rate has been approximately 46 per cent for the past four years.

TABLE 9
THERAPY OF PATIENTS WITH SHOCK

	Cases	Died	Recovered Per Cent Recovered
No Therapy	13	6	7 54
Vasopressors	20	14	6 30
Vasopressor + Adrenal Ster. Moderate doses	9	6	3 33
Vasopressor + Adrenal Ster. High doses	2	1	1 50
Adrenal Steroids Alone High doses	11	9	2 18
Total	55	36	19 35

The mortality rate is particularly high in two subgroups of patients. Sixty-six per cent of all patients who developed hypotension as a complication of their bacteremia expired. Almost 50 per cent of all infants who developed a septicemia due to one of these organisms died. The mortality for those who were over two years of age and did not develop hypotension was 38 per cent. Spink reported a 65 per cent mortality in patients who developed shock. Weil *et al* found that 85 per cent of patients who developed hypotension died, in contrast to 20 per cent of those who did not.

The alarming aspect of this particular series of patients is the high incidence of hypotension as a complication of the bacteremia. Only 16 per cent of the 278 cases reported by Spink in 1958 developed hypotension. In the series reported by Weil, Shubin and Biddle 24 per cent of adult patients developed shock. Forty per cent of the patients over two years of age of this series developed a significant degree of hypotension. It has been suggested that certain underlying disease processes predispose to the development of a gram-negative bacteremia. It has been previously noted that diabetes and cirrhosis are associated with

TABLE 11
DEVELOPMENT OF SHOCK AND
CAUSATIVE ORGANISMS

	Shock	No Shock	Ratio
E. Coli	19	24	.79
A. Aerogenes	16	14	1.14
Paracolon	6	15	.40
Pseudomonas	8	14	.57
Proteus	4	8	.50
Mixed	2	8	.25
Total	55	83	.66

a higher incidence of gram-negative bacteremia.^{7, 8} This was not substantiated in this series. Only four per cent of the patients had diabetes. An even smaller number had cirrhosis of the liver. The most common "primary" disease was cancer.

Approximately 68 per cent of the patients acquired their septicemia while in the hospital. Forty-three per cent of this group had a manipulative or operative procedure prior to the development of the bacteremia. As has been mentioned elsewhere the genitourinary tract was the most common portal of entry.⁶ The gastrointestinal tract was the second most common portal of entry. There was a predominance of hospital-acquired infections and most of these occurred postoperatively. However, the mortality rates were approximately the same for all groups regardless of their relationship to hospitalization or surgery.

Clinically, a gram-negative bacteremia was manifest in almost all cases (except infants) by the presence of

TABLE 10
HOSPITAL AND OPERATIVE STATUS VS.
DEVELOPMENT OF SHOCK

	Shock	No Shock
No Surgery	26	41
Post-Surgery	29	42
Acquired In Hospital	33	39
Acquired Outside Hospital ..	22	24

TABLE 12
AGE OF PATIENT AND DEVELOPMENT
AND OUTCOME OF HYPOTENSIVE
EPISODE

Age	Shock		No Shock	
	RECOVERED	DIED	RECOVERED	DIED
1-9	0	1	5	9
10-19	0	0	3	1
20-29	3	2	8	3
30-39	3	2	8	3
40-49	4	6	5	1
50-59	4	8	7	4
60-69	3	6	5	2
70-79	0	8	7	6
80 +	2	3	5	1
Total	19	36	53	30

nausea and vomiting. There was leukocytosis and some decrease in the level of hemoglobin. A fall in white count associated with septicemia due to *Pseudomonas* has been described by others.⁹ This was not observed in this group of patients. There was a decrease in the concentration of electrolytes in the serum of many adults. This was possibly due to hemodilution secondary to intravenous fluid therapy. However, many of these patients had a metabolic acidosis. Others have described this as a frequent finding in patients with gram-negative septicemia.⁶

In vitro antibiotic disc sensitivity studies showed chloramphenicol to be the most effective agent against the organism present, with the exception of *Pseudomonas*. Polymyxin was the only agent which demonstrated *in vitro* effectiveness against this organism. However, the recovery rates of patients treated with antibiotics indicated as effective inhibitors of bacterial growth *in vitro* was the same as that for patients treated with antibiotics for an infection which had been found in be "resistant" *in vitro*. This demonstrates the fact that *in vitro* sensitivity is not a valid predictor of the *in vivo* efficacy of antibiotic agents.

It has been suggested that prophylactic therapy with antibiotics, particularly those effective against gram-positive organisms, might play a significant role in the development of septicemia due to gram-negative organisms. Twenty-nine per cent of the patients in this series were receiving one or more antibiotics at the time of onset of their bacteremia. Almost one third of this group were receiving penicillin. Also, approximately 20 per cent of all patients were being treated with corticosteroids, antimetabolites or radiation at the time of onset of their septicemia. This emphasizes the importance of these agents in providing an opportunity for gram-negative organisms to multiply within the blood stream.

Considerable debate has occurred regarding the optimum treatment for patients who develop hypotension. A previous study indicated that the mortality rate varied little between patients who received various combinations of adrenal corticosteroids and vasopressors. A slightly better prognosis was observed in patients who received high doses of adrenal corticosteroids.⁶ In this series, the mortality rate was approximately the same regardless of the type of treatment utilized.

Summary

1. During a five-year period at the University of Kansas Medical Center, a series of 180 patients were observed to develop a gram-negative bacteremia.

2. The mortality for those less than one year of age was 48 per cent. Mortality among those patients who developed hypotension was 66 per cent. Thirty-eight per cent of those patients over two years of age

who did not develop shock, died as a result of the infection.

3. Forty per cent of 138 patients over two years of age developed hypotension.

4. The majority of these infections were acquired while the patient was in the hospital following an operative or manipulative procedure. The most common portals of entry were the genitourinary and gastrointestinal tracts. Diabetes and cirrhosis were not observed to be common predisposing factors for the development of gram-negative bacteremias.

5. The recovery rate was approximately the same regardless of the results of *in vitro* antibiotic sensitivity studies.

6. Twenty nine per cent of all patients who developed a bacteremia were receiving antibiotics at the time.

7. In 20 per cent of the cases there was a predisposing factor such as the use of adrenal corticosteroids, radiation or antimetabolites.

8. The mortality rate was the same for patients who developed hypotension regardless of the method of treatment utilized—vasopressor, or vasopressor with moderate or high doses of adrenal corticosteroids.

9. A contrast of the 55 patients that developed shock to the 83 who did not reveal no difference in portal of entry, age, underlying disease, or a relationship to hospitalization or surgery. It was noted that patients that were infected with *Aerobacter aerogenes* had a higher incidence of hypotension. This was not statistically significant.

References

1. Finland, M., Jones, W. F., Jr. and Barnes, M. W.: Occurrence of serious bacterial infections since introduction of antibacterial agents. *J.A.M.A.* 170:2188-2197, 1959.
2. Spittel, J. A., Jr., Martin, W. J. and Nichols, D. R.: Bacteremia owing to gram-negative bacilli: Experiences in the treatment of 137 patients in a 15-year period. *Ann. Intern. Med.* 44:302-315, 1956.
3. Waisbern, B. A.: Bacteremia due to gram-negative bacilli other than the salmonella: A clinical and therapeutic study. *Arch. Intern. Med.* 88:467-488, 1951.
4. McCabe, W. R. and Jackson, G. G.: Gram-negative bacteremia: I. Etiology and ecology. *Arch. Intern. Med.* 110:847-855, 1962.
5. Spink, W. W.: The pathogenesis and management of shock due to infection. *Arch. Intern. Med.* 106:433-442, 1960.
6. Weil, M. H., Shubin, Herbert H. and Biddle, M.: Shock caused by gram-negative micro-organisms: Analysis of 169 cases. *Annals of Intern. Med.* 60:384, 1964.
7. Martin, W. J. and Spittel, J. A., Jr.: Severe liver disease complicated by bacteremia due to gram-negative bacilli. *Arch. of Intern. Med.* 98:8, 1956.
8. McHenry, M. C., Martin, W. J. and Wellman, W. E.: Bacteremia due to gram-negative bacilli: Review of 113 cases encountered in the five-year period 1955 through 1959. *Ann. Intern. Med.* 56:207-219, 1962.
9. Forkner, C. E., Frei, E., III, Edgcomb, J. H. and Utz, J. P.: *Pseudomonas* septicemia: Observations on 23 cases. *Am. Journ. Med.* 25:877-889, 1958.

The Personal Touch

The Physician as Healer in Modern Society

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MAN HAS ALWAYS sought for a healer of his diseases. It is ironical that he should seek such at the hand of his own kind—from a brother, himself vulnerable to the ravages of disease.

The primitive background of the treatment of disease is well known. In the days when all sickness was believed to be due to evil spirits, the medicine man emerged in society as a tribal official who was on good enough terms with the gods to influence them on behalf of his patients. In the course of evolution of society, concepts of disease have changed and the primitive priest-physician has been replaced by a relative newcomer, the scientist-physician. Methods of healing have changed as new information has been obtained, but the relationship between the healer and his patient still bears evidence of its primitive and essential character.

Gone are the boiling cauldrons and shrieking incantations; they are replaced by whirling centrifuges and a laboratory jargon hardly more understandable. Gone are the horned head-dresses and magic potions; they are replaced by infrared goggles and "atomic cocktails." For modern man, issues of life and death still are governed by mysterious and incalculable forces. A sick man still must seek out one who supposedly understands these forces and place himself in his hands. He must exercise faith in his judgment and recommendations. Modern man has not outgrown his primitive psychological needs, even though he tries to disguise them by various kinds of sophistication. Man still is, as always, in desperate need of a healer.

One of the problems confronting society at this point in history is how to provide healing or health most effectively for a rapidly expanding number of people. A variety of solutions are being proposed by politicians, social scientists, economists, labor leaders and physicians, each operating with different sets of assumptions which necessarily lead to disagreement and conflict. It seems that some clarification of the issues can occur if we will give our attention to two basic questions: (1) What do we mean by health? (2) What kinds of services are necessary to provide health as defined?

The answer to the first question is not as obvious as might first appear. We can probably agree on a broad definition of health as a condition of being well

and free from illness or disease. It involves the idea of wholeness and embraces the mental and spiritual aspects of man's nature as well as the physical. As soon as we leave this broad area of agreement, however, and try to understand specifically what it means to be whole in 1965, in the United States of America, we immediately begin to bog down in a welter of conflicting opinion. We discover that health is a rela-

Medical advances have not eliminated the illnesses man produces within himself. There will always be a need for someone to function as a healer and his personal relationship with the patient will always be essential to whatever success he achieves.

tive term. We have no clear idea of what a whole, completely healthy, person is like. We can imagine freedom from pain, fever or cancer, but we have difficulty in conceptualizing mental or spiritual health.

Perhaps it would help if we asked this first question in another way. Instead of asking "What is health?" let us ask conversely, "What is not health?" What is the nature of "disease" which confronts modern American society? There are a great deal of statistical data to provide at least a partial answer. There are public health statistics on prevalence and incidence of specific diseases, insurance company mortality tables, data compiled from death certificates and hospital admission data.

From these sources we learn that the pattern of disease in the U. S. has changed rather drastically in this century. Heart disease and cancer head the list of killers, while infectious diseases are far down the list. But there are disturbing statistics. In some areas death from suicide exceeds that from tuberculosis. Traffic fatalities exceed deaths from many of the more common types of cancer. Alongside this we must consider the national consumption of tranquilizers, the popularity of cultists and faith healers. It makes one wonder if the masses of data really reflect the true state of our health.

What about that largest group of sick people who daily visit doctors' offices, clinics and out-patient

offices, upon whom no reliable statistics are available? What is wrong with them? Many unsupported opinions have been offered as to what percentage of these people are "neurotic" or "only think they're sick." The truth is that we doctors don't have adequate diagnostic categories to describe many persons who seek our help. We employ many euphemisms, some common, such as "nervous exhaustion," "low blood pressure," "asthenia" and "neuralgia"; some pseudo-sophisticated, such as "depression," "anxiety," "irritable bowel syndrome" or "psycho-physiologic reaction." But what do these words really mean? Much of our medical diagnosing is done within the limits of what insurance carriers will accept on their claim forms, which is only another way of saying that society always determines what diagnoses are acceptable.

The lack of statistical clarity does not mean, however, that we really don't have any good notion of what our health problems are. The most perceptive physicians among us are coming to see that an ever increasing percentage of our illnesses are of our own making and concern the way we live, eat, work, smoke, and relate ourselves to each other. Dr. John C. Whitehorn, in an address to a meeting of the Massachusetts Medical Society in 1961, said,

Even if it achieved the knowledge and powers to control all microbial, viral or parasitic incitants of disease, all environmental toxins and traumas, and had only man himself to contend with, the medical profession could still be busy in the care and relief of human suffering, having its origin in the pathogenic propensities of man himself. This millennial picture is still far distant; I have dreamed it up only to make the point that man himself is a pathogenic agent, a begetter of distress and disability, even death. (*New England J. Med.*, vol. 265, no. 7, Aug. 17, 1961, page 301.)

This concept of the personal nature of illness is proving to be true in the experience of most physicians even though we may not agree on what to call specific examples of such illness. It has far-reaching implications for the second basic question asked earlier. "What kinds of services are necessary to provide health as defined?"

Consider an example, peptic ulcer of the stomach or duodenum. If one conceives of disease primarily as due to external, fortuitous forces acting mechanically upon the body, then a peptic ulcer is simply a sore in the stomach or duodenum, caused by over-acidity and distributed randomly among the population. With these assumptions, treatment would also be mechanistically conceived and would involve a direct attack upon the ulcer by drugs or by surgery. If one happened to be a legislator, concerned with the health of a nation or a state, and shared this view, then it

would be perfectly logical to provide money for drugs, operating rooms and surgeons' fees for needy persons with peptic ulcer.

On the other hand, if one understands peptic ulcer as a reaction of the human individual to stress, often precipitated by intra-psychic or interpersonal conflicts, then a mechanical approach to treatment is not entirely logical. If a patient needs self-understanding and education as well as drugs and surgery, then any society concerned with the health of its citizens should also provide an environment in which these things can occur too.

This kind of reasoning can be applied to an ever increasing number of medical problems. The day of mechanical treatments is not over for our knowledge is far from complete, but almost every major new advance in medical science either eliminates a disease such as polio, or obviates certain purely mechanical treatments. The point here is not to do away with mechanical treatment, but to recognize that something else is involved in treating sick people than hospitals, x-rays, drugs and operations. A further point is that in the future, this "something else" is going to become more and more important, and that, as a society, if we organize our medical efforts without taking this fact into consideration, we will fail to meet our real needs.

What about this "something else"? What is it? I refer you again to the primitive medicine man and his patient. Healing as an art is very old and science is very young by comparison. This is not to suggest that there is an inherent enmity between healing and science, but it is to suggest that there are differences. Healing can be practiced by the pre-scientific or the unscientific person but ideally it should be practiced by the genuinely scientific person.

Healing is intensely personal and it occurs within the context of a special kind of relationship between persons, the patient and the physician. When a physician accepts continuing responsibility for a patient a new relationship is established that releases powerful forces. This means that the physician must be prepared by his training and discipline to accept all sorts of people, not on the basis of their "likeableness," but on the basis of their need. Dr. T. F. Fox, editor of *The Lancet* said in an address before the New York Academy of Medicine,

But if the physician is so good a doctor as not to be put off by weakness, folly, grief, sin, or even bad manners; if he places himself at the patient's side; if he puts the patient's interest before his own—the relationship can be something valuable. The perfectly perfect physician would not merely like all his patients some of the time; or some of his patients all the time; he would like (or at any rate tolerate) all his patients all the time. . . .

(*Bull. N. Y. Acad. Med.*, vol. 38, no. 8, Aug. 1962, p. 533.)

Such a concept of healing asserts that man is more than a mere human animal who needs aspirin for his headaches and "Miltown" for his nerves. He is a being of ultimate significance who can truly be healed only as he finds a degree of fulfillment of his destiny as a person of freedom and responsibility. This principle underlies even the simplest therapeutic situation in medicine. Consistent failure to recognize it will result in a breakdown of the healer-patient relationship and man will seek a new healer.

You do not have to remind me that the healing relationship has been prostituted. To quote a line from Carl Sandburg, "The panderers and liars have violated and smutted it." Unscrupulous men have taken advantage and twisted it to serve their own selfish ends. Insensitive men have ignorantly failed to grasp its true meaning and potential. I acknowledge all this, yet I insist that something genuine and vital occurs in the meeting of doctor and patient. This relationship is no figment of the imagination; no creation of the American Medical Association to scare off socialistic bogey-men. If we are to grapple successfully with the problems of health for a nation, we must give first consideration to the doctor-patient contact.

One of the paradoxes of our time is that the healing relationship seems most in jeopardy at a time when we need it most. There are many forces which threaten to depersonalize the meeting of a doctor and patient. Not the least of these forces is the burgeoning increase in scientific knowledge. An exclusive preoccupation with pure science may be an obstacle to the wise practice of medicine. A preoccupation with a disease instead of a person is detrimental to good medicine. Science prides itself on impersonality and objectivity. It is concerned with theories, experiments, and statistics. Any physician who looks upon a sick patient as an exercise in diagnosis or treatment is not a complete physician. On the other hand, nobody wants a physician who is inadequately trained in the science of medicine, or one who tries to cover his scientific ignorance with a "bedside manner." But it is tempting for a physician to rely too heavily on his science.

A second threat to the doctor-patient relationship in recent years is the frequency of legal action against doctors. The ready willingness to sue doctors for alleged malpractice is modifying the practice of medicine to a measurable degree. Doctors are acutely aware of the possibilities for suit and order more x-rays, more laboratory tests and more consultations than otherwise necessary, in order to protect themselves against possible legal action. Perhaps a more serious reaction is the unwillingness some doctors

have to take risks in treating critically ill people. In some instances a patient may be denied the slim chance of desperate surgery or dangerous treatment to protect the doctor in event of failure.

I hold no brief for medical mismanagement or dishonesty, yet it should be pointed out that the same forces which provide the potential for healing must also include the possibility for failure. The healer must have the right to be wrong, as long as he acts in what he believes to be the best interests of the patient. No healer can guarantee health. Herein is a great risk, for there will always be those who will exploit the healer's right to be wrong. Society needs to use the greatest care in exorcising the incompetent and selfish healers, however. It is possible to create a legal situation in which the possibility of healing is destroyed. In the last analysis, society cannot really protect itself against the exploiters by legislation. The only protection is in the good character of the great majority of healers. If this is absent, nothing can save the patients.

A final implication of the personal nature of healing is one so obvious that it is often overlooked. It is simply that a personal relationship must be entered into freely by both parties. There can be no coercion from the outside. The medical profession is right in its insistence that free choice of physician and free choice of patient is absolutely essential for excellence in medical care. How could it be otherwise? A healer cannot be commanded to heal. That would interject elements of motivation into the relationship that would make healing impossible. A healer must be willing to involve himself with his patient. Symptomatic treatment may be possible without this, but not healing.

In any therapeutic situation of consequence, it is the physician himself who is the essential ingredient. A good physician can work wonders with a simple remedy, while an inept physician may fail with the most potent. The success or failure of treatment in the most serious diseases depends upon the ability of the physician to apply himself to the patient's needs. He must be motivated enough to be willing to give himself to the patient. He must be mature enough to do this wisely. It is an emotionally costly experience for the physician to really enter into the patient's illness, hence this must be a voluntary act.

In conclusion, I plead for recognition of the personal factors in the causation and treatment of sick people. Health is not a commodity that can be purchased in any quantity as long as one has the money. One can buy the mechanical appurtenances of healing but one cannot buy that essential ingredient—a physician who really cares about the patient.

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Peptic Ulcer

Endocrine Factors in Peptic Ulceration

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PEPTIC ULCERATION is usually accompanied by increased secretion of gastric acid peptic juice. The normal mechanism of secretion of gastric juice has traditionally been classified into three phases of secretion: The cephalic (vagal) phase, the gastric or antral (humoral phase, and the intestinal (probably humoral) phase. Abnormalities of this gastric secretion, such as the hypersecretion of duodenal ulcer patients, are not well understood at the present time. There is increasing evidence that endocrine or humoral factors have an influence in regulating the secretion of gastric juice.

Endocrine cells and glands function by liberating humoral substances directly into the blood stream, which then stimulate an end organ. For the purposes of this presentation, the end organ is considered to be the parietal cell mass of the fundus and body of the stomach, and the effect would be the increase or decrease in secretion of gastric acid.

Endocrine Activity of the Gastric Antrum and Duodenal Mucosa

The predominant endocrine factor affecting parietal cell secretion is the antral phase of gastric secretion, commonly known as the Edkins phenomenon.¹ Cells in the antral mucosa or submucosa apparently liberate a humoral substance called gastrin, which is similar to histamine and causes increased secretion of acid. Both chemical and mechanical stimuli may cause the release of gastrin from the antrum. The chemical stimulus is primarily one of an alkaline pH. The vagus takes part in this phenomenon as well.² More recently, another antral factor has been described, in which a substance acting as a hormone is released from the antrum which has the effect of decreasing acid secretion from the rest of the stomach.³ This factor is called the acid-inhibiting factor and is stimulated by the presence of an acid pH on the antral mucosa. It appears from this that the antral mucosa has a function of either increasing or decreasing gastric acidity through humoral mechanisms and can in one sense be called the "governor" of acid secretion. The duodenal mucosa which normally contains and releases a substance called secretin plays a part in

the regulation of acid secretion. It has been shown that secretin will also decrease acid secretion from the parietal cells.⁴ This phenomenon is called the duodenal inhibition mechanism. The duodenal inhibition mechanism normally present has been shown not to be present in patients with duodenal ulcer and it has been suggested that the failure of this mecha-

The parietal cells of the stomach appear to be responsive to both vagal and humoral substances. The humoral substances are primarily those originating from the gastric antrum and the pancreatic islets, but it is possible that other secretagogues such as histamine and inhibitors such as secretin take part in the complex physiologic mechanisms involved in peptic ulceration.

nism may be responsible for the acid hypersecretion in duodenal ulcer patients.⁵

Adrenal Factors

There is general agreement that adrenal cortical deficiency results in decrease in gastric secretory activity. However, there is no unanimity of opinion regarding the effect of increased activity of the adrenal cortex or of exogenously administered adrenal cortical steroids on gastric secretion. It is felt that adrenal cortical steroids act in a permissive way rather than in a regulatory way, allowing the usual metabolic responses to stressful stimuli.⁶ Peptic ulceration associated with corticosteroid administration, may, however, be due to a decreased mucous barrier, as described by Menguy.⁷

Parathyroid Factors

Numerous clinical studies have suggested an increased incidence of peptic ulcer associated with hyperparathyroidism. The increased incidence, however, only runs between 9 and 24 per cent of patients with parathyroid tumors. Therefore it cannot be positively stated that hyperparathyroidism predisposes to

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the development of peptic ulcer. If there is a relationship of parathyroid function to gastric secretion, the mechanism is unknown. Both parathormone and increases in serum calcium have been reported to decrease gastric secretion.⁸ Removal of the parathyroid adenoma may be associated with healing of a duodenal ulcer; however, persistence of a duodenal ulcer following removal of a parathyroid adenoma has been described to be associated with pancreatic non Beta islet cell adenomas.⁹

Thyroid Factors

Gastric secretion in both hypothyroidism and hyperthyroidism is decreased. This secretion will return to normal when the underlying abnormality in thyroid metabolism is corrected.¹⁰

Gonadal Factors

Peptic ulcer is more common in males than in females, the ratio being four to one. No satisfactory explanation has been found for this. It has been suggested that the increase in acid secretion in males may merely reflect the larger parietal cell mass in males. During pregnancy, acid secretion remains unchanged.¹¹

Hepatic Factors

The incidence of peptic ulceration is increased in patients with hepatic cirrhosis or in patients having had a portocaval shunt. Speculation as to the cause of the increased incidence has taken several courses. Early it was felt that the increased congestion and thickening of the mucosa secondary to portal hypertension rendered this mucosa more susceptible to acid peptic digestion and ulceration.¹² Recently a more plausible theory has been described in which the histamine from the mucosa of the small intestine bypasses the liver in cirrhosis and in shunts and is thereby not inactivated by the liver.¹³ As a result, the increased histamine in the blood produces a gastric hypersecretion and an increased incidence of peptic ulceration.¹⁴ Another interesting theory which supports a humoral mechanism has been demonstrated in dogs. Silen showed that if, in an experimental animal, one of the hepatic ducts is ligated a progressive cirrhosis develops in that obstructed lobe of the liver. As the process progresses, hypersecretion of acid from experimentally denervated gastric pouches develops. When the cirrhotic lobe is excised, the secretion from the gastric pouch returns to normal.¹⁵ This suggests that a humoral substance in the blood stream has been liberated from the damaged liver, affecting gastric secretion.

Pancreatic Factors

The incidence of peptic ulceration is increased in patients with chronic pancreatitis. Small but significant amounts of a gastrin-like substance have been extracted from the pancreas of a patient with chronic pancreatitis.¹⁶ The reason for this is unknown but it is stated that there is a "relative" preponderance of islet cells (presumably non Beta islet cells) over the exocrine cells of the pancreas in chronic pancreatitis. Experimentally, pancreatic ductal exclusion has been reported to cause an increased secretion of acid from the stomach with an increased incidence of peptic ulceration. Such information, however, is difficult to interpret because of coexistent alterations of exocrine buffering capacity in these experimental preparations.

The strongest endocrine factors favoring peptic ulceration related to the pancreas are exemplified in the syndrome described by Zollinger and Ellison.¹⁷ In this syndrome, non Beta islet cell tumors, benign or malignant, and diffuse hyperplasia of these cells liberate a substance which has been extracted and shown to possess physiologic activities similar to gastrin. This acid-stimulating substance has been extracted not only from the primary tumor but from the metastatic tumors of lymph nodes and liver as well.¹⁸ The syndrome which is produced by these "gastrin secreting cells" consists of intractable ulceration, ectopic location of peptic ulcer such as in the jejunum or the esophagus, marked hypersecretion of acid (over 1000 ml. per 12 hours, containing over 100 mEq. per liter), failure of conventional medical and surgical treatment, and the presence of tumor of the islet cells. More recently, other diagnostic criteria have been described which should call our attention to the possibility of the ulcerogenic tumor of the pancreas. The radiologic findings of hypertrophic rugae of the stomach, of hypermotility of the small intestine, of nodularity of the duodenum, are highly suggestive of this syndrome. The presence of diarrhea or steatorrhea due to excessive gastric juice in the small intestine inhibiting the action of fat-splitting pancreatic enzymes is an important diagnostic feature. Perforation of jejunal ulcers has been described. Our experience with seven patients exhibiting these diagnostic features of the Zollinger-Ellison syndrome has led us to feel that the treatment, whenever possible, should consist of total excision of the end organ, that is, total gastrectomy. It is felt that patients exhibiting the Zollinger-Ellison syndrome are seriously ill because of the hypersecretion of acid and that since most of these patients exhibit multiple tumors or metastatic tumors or hyperplasia of the islets, removal of the end organ will be more likely to reduce acid secretion than will removal of all the islet cells of the pancreas. In three instances in which total gas-

trectomy has been carried out, the health and well being of the patients have been superior to that of those in whom subtotal gastrectomies with vagotomy have been carried out. All three patients who have had total gastrectomy have gained weight. None of these patients have demonstrated pituitary enlargement on x-ray. One patient, however, has had evidence of polyglandular disease in that five years prior to his total gastrectomy for the Zollinger-Ellison syndrome he had had an adrenal cortical adenoma removed, followed by disappearance of typical Cushing's syndrome. Polyglandular involvement of the endocrine organs may be more common than is realized at this time. Wermer has described a syndrome in which there is a familial incidence of pituitary adenoma with acromegaly, parathyroid adenoma, and islet cell adenoma of the non Beta cells.¹⁹ In these patients, peptic ulceration is seen and seems to be related specifically to the islet cell adenomas rather than to the other adenomas in these patients.

References

1. Edkins, J. S.: The chemical mechanism of gastrin secretion. *J. Physiol.* (Lond.) 34:133, 1906.
2. Nyhus, L. M., Chapman, N. D., De Vito, R. V. and Harkins, H. N.: The control of gastrin release, an experimental study illustrating a new concept. *Gastroenterology* 39:582, 1960.
3. Harrison, R. C., Lakey, W. H. and Hyde, H. A.: The production of an acid inhibitor by the gastric antrum. *Ann. Surg.* 144:441, 1956.
4. Gryboski, W. H. and Menguy, R. B.: Effects of secretion on gastric secretion. *Surg. Forum* XIV:335, 1963.
5. Shay, H., Cohen, J. G., Fells, S. S. and Siplet, H.: A self regulatory duodenal mechanism for gastric acid control and an explanation for the pathologic physiology of uncomplicated duodenal ulcer. *Am. J. Dig. Dis.* 9:124, 1942.
6. Ingle, D. J.: Permissibility of hormone action: A review. *Acta endocr.* (Kbh) 17:172, 1954.
7. Menguy, R. and Masters, Y. F.: Effect of cortisone on mucoprotein secretion by gastric antrum of dogs: Pathogenesis of steroid ulcer. *Surgery* 54:19, 1963.
8. Babkin, B. P., Komerov, O. and Komerov, S. A.: The effect of activated ergosterol and of parathyroid hormone on gastric function in the dog. *Endocrinology* 26:703, 1940.
9. Zollinger, R. M. and Craig, T. V.: Endocrine tumors and peptic ulcer. *Amer. J. Med.* 29:761, 1960.
10. Lerman, J. and Means, J. H.: Gastric secretion in exophthalmic goitre and myxoedema. *J. Clin. Invest.* 11:167, 1932.
11. Clark, D. H. and Tankel, H. J.: Gastric acid and plasma-histamine during pregnancy. *Lancet* 2:886, 1954.
12. Baronofsky, I. D. and Wangenstein, O. H.: Obstruction of the splenic vein increases weight of stomach and predisposes to erosion or ulcer. *Proc. Soc. Exper. Biol. Med.* 59:234, 1945.
13. Clarke, J. S., Ozeran, R. S., Hart, J. C., Cruze, K. and Crevling, V.: Peptic ulcer following portocaval shunt. *Ann. Surg.* 148:551, 1958.
14. Silen, W. and Eisemann, B.: Evidence for histamine as the agent responsible for gastric hypersecretion after portocaval shunt. *Surgery* 50:213, 1961.
15. Silen, W., Hein, M. F., Albo, R. J. and Harper, H. A.: Influence of liver upon canine gastric secretion. *Surgery* 54:29, 1963.
16. Zollinger, R. M., Elliott, D. W., Endahl, G. L., Grant, G. N., Goswitz, J. T. and Taft, D. A.: Origin of the ulcerogenic hormone in endocrine induced ulcer. *Ann. Surg.* 156:570, 1962.
17. Zollinger, R. M. and Ellison, E. H.: Primary peptic ulceration of the jejunum associated with islet cell tumors of the pancreas. *Ann. Surg.* 142:709, 1955.
18. Friesen, S. R., Tracy, H. J. and Gregory, R. A.: Mechanism of the gastric hypersecretion in the Zollinger-Ellison syndrome: Successful extraction of gastrin-like activity from metastases and primary pancreaticoduodenal islet cell carcinoma. *Ann. Surg.* 155:167, 1962.
19. Wermer, P.: Genetic aspects of adenomatosis of endocrine glands. *Amer. J. Med.* 6:363, 1954.

The Personal Touch

(Continued from page 239)

I believe that personal medicine can be practiced under many different kinds of governmental and social systems, but regardless of who pays for it, any system that does not nurture and protect the doctor-patient relationship is doomed to failure.

In summary, I have tried to show that modern man's health needs must be broadly conceived; that as malnutrition, plague and infectious disease have been conquered, man is left with a residue of illnesses largely of his own making. The "cure" for such illnesses requires a consideration of the whole man and is carried out within the context of a personal relationship between the patient and a healer who is not only scientifically well informed, but who himself is genuinely human. Certain threats to the healer-patient relationship have been described.

SCAR UNNECESSARY

Smallpox vaccination can be effective despite lack of scar formation, a study of 25 patients has indicated.

Drs. William B. Pincus and John A. Flick of the University of Pennsylvania studied eight children vaccinated once without the formation of a primary lesion or scar, 14 persons vaccinated when institutionalized and also lacking a scar, and three adults vaccinated effectively as children but not reacting to subsequent inoculations.

After checking for antibody levels, the investigators vaccinated the group with active vaccinia in one arm and inactive virus in the other. Only four of 13 with smallpox antibodies before vaccination had no significant rise in antibodies after revaccination.

Evidence of hypersensitivity to the inactive virus was seen within 48 hours in 19 patients, indicating that past vaccination was effective despite absence of a scar. Serum antibodies in three others also suggested a successful previous vaccination.—*Immunology, Med. World News* 6:145 (Jan. 15) 1965.



Sore Tongue, Dysphagia, Anemia and Death

THIS WAS THE FIRST KUMC admission for this 83-year-old white woman who came in with a chief complaint of a "sore tongue."

About six months before admission she began to have pain over the right lateral aspect of her tongue. The area subsequently became ulcerated. It became very painful for her to eat, and she had progressive dysphagia, dysarthria, sialorrhea, and a disagreeable taste in her mouth. Four months before admission she had been admitted to another hospital for biopsy of the tongue lesion which was reported to show "no malignancy." She subsequently received six x-ray treatments to her tongue. In spite of this her symptoms became progressively more severe, and she developed an ulcer on the left lateral aspect of her tongue. During the year before her admission she had had progressive weakness, anorexia, severe constipation, and had lost 40 pounds.

Five years before admission she was hospitalized elsewhere because of low back pain and pain in the wrists and fingers. Three years later she fractured her left wrist. One year before admission she was hospitalized because of "bowel trouble." Four months before admission she was given oral iron therapy for anemia. There was no history of previous serious illnesses or surgical operations.

Both of the patient's parents died in their early 70's from cerebral vascular accidents. One sister had diabetes.

She had had dyspnea on exertion for several years. During the week before admission she had orthopnea and a cough productive of yellow sputum. She had not had chills or fever.

The patient's pulse was 80; blood pressure, 100/70; temperature 99.6°. She was a thin, elderly,

white woman who appeared to be chronically ill. She had bilateral cataracts. Her tongue was smooth and enlarged, and there were 1 x 1 cm. indurated, ulcerating lesions on both lateral surfaces. There was no enlargement of the thyroid. Inspiratory basilar rales were heard in both lung fields posteriorly. There were no masses in the breasts. There was a regular cardiac rhythm with a grade two systolic murmur at the aortic area radiating down the left sternal border. There was no cardiomegaly to percussion. No organomegaly or masses were noted in the abdomen. The back and spine showed moderate dorsal kyphosis with no vertebral tenderness to percussion. There was generalized muscle atrophy with flexion contractures of fingers, and the wrist joints were enlarged with limitation of movement. The skin over one finger was taut and shiny. There was decreased vibratory sense in the lower extremities. The skin was very dry and had poor turgor.

The urine pH was 5.5; specific gravity, 1.010. There was two plus proteinuria, and many bacteria and pus cells with a few red blood cells present in each high power field. The white blood count was 20,400 with 88 per cent segmented neutrophils, 11 per cent lymphocytes, and 1 per cent eosinophil. The hemoglobin was 8.2 Gm. per cent; hematocrit, 36; platelets, 355,000; reticulocytes, 1.6 per cent. The VDRL was nonreactive. The blood urea nitrogen was 37 mg. per cent; creatinine, 2.3 mg. per cent; uric acid, 4.9 mg. per cent; fasting blood sugar, 84; two-hour postprandial sugar, 131 mg. per cent. Serum electrolytes showed a sodium of 142 mEq.; potassium, 5.3 mEq.; chloride, 108 mEq.; bicarbonate, 26.4 mEq.; calcium, 4.8 mEq.; and phosphorus, 2.8 mEq./L. The serum iron was 53 mcg. per cent with a total iron binding capacity of 261 mcg. per cent. The direct Coombs' test was negative. The protein bound iodine was 3.1 mcg. per cent, iodine-131 uptake, 24 per cent at 24 hours; cobalt-60 uptake, 3 per cent at 24 hours. Serum albumin was 2.87 Gm.

Edited by Jesse D. Rising, M.D. and Mahlon Delp, M.D., from recordings of the proceedings of the conference participated in by the departments of medicine, pediatrics, surgery, radiology, gynecology and obstetrics, and pathology of the University of Kansas Medical Center as well as by the third- and fourth-year classes of students.

per cent with a globulin of 3.58 Gm. per cent; alkaline phosphatase, 2.5 millimole units; total bilirubin, 0.1 mg. per cent. The fecal benzidine was two plus. Intermediate test strength of PPD and the histoplasmin skin tests were negative. The second strength of PPD was positive.

Following admission the patient was given antibiotics because of continuing low-grade fever and cough, and within four days she was afebrile. Throughout her hospitalization it was difficult to keep her well hydrated because of persistent dysphagia. After treatment with frequent mouth washes and numerous other medications she gradually became more alert and stronger. The ulcerations of the tongue gradually disappeared, and she no longer had pain on eating. She continued, however, to have dysphagia and difficulty in swallowing her oral secretions. She complained intermittently of pain in the wrists and low back. The patient was discharged on the 49th hospital day. Two weeks later she developed what was thought to be a minor respiratory infection and suddenly expired the following day.

Dr. Mahlon Delp (moderator): Are there any questions for Doctor Neel?

Norman Berkley (student*): Were any bilirubin tests done?

Dr. Wilbur B. Neel (resident in medicine): Yes, and it was normal.

Leland Reitz (student): Were further studies done on stools for occult blood?

Dr. Neel: There were two done: One was two plus on the benzidine test and one was three plus.

Patrick Burns (student): Was a Congo red test done?

Dr. Neel: No.

Mr. Burns: Was a Schilling test done using intrinsic factor?

Dr. Neel: Yes.

Mr. Burns: Was an electrophoresis done?

Dr. Neel: Yes. The values for that serum protein electrophoresis were: albumin, 36.6 per cent; α_1 globulin, 4.8 per cent; α_2 globulin, 9.7 per cent; beta globulin, 11.3 per cent; and gamma globulin, 37.6 per cent.

Keith Etzenhouser (student): Did this patient ever show reticulocytes while she was in the hospital?

Dr. Neel: Very slight, I think the highest was 3.6 per cent.

Mr. Burns: Was a repeat biopsy ever made of the tongue?

Dr. Neel: Yes.

Mr. Reitz: Was a sedimentation rate done?

Dr. Neel: Yes, the sedimentation rate was done on two different occasions. The first was: 0, 21, 25, 30, 31. The repeat was: 0, 30, 35, 35.5, and 36.

Mr. Etzenhouser: Did this woman ever show any significant skin lesions?

Dr. Neel: She did have a reddish-brown lesion on the left cheek, and I believe two similar lesions on her right forearm.

Mr. Reitz: What were the results of her gastric analysis?

Dr. Neel: I do not believe this was done.

Mr. Etzenhouser: Were any subcutaneous nodules found?

Dr. Neel: No.

Mr. Berkley: Was a venous pressure done?

Dr. Neel: No.

Mr. Berkley: How did her weight course go while she was in the hospital?

Dr. Neel: She weighed 102½ pounds on admission and she lost two and one-half pounds over two days. Throughout the remainder of her hospitalization she remained about one hundred pounds.

Mr. Burns: Was an intestinal biopsy of any part of the gastrointestinal tract done?

Dr. Neel: No.

Mr. Etzenhouser: Were there any neurological findings other than those mentioned?

Dr. Neel: It was stated that on standing she would fall to the right. The importance here could be a little questionable because this lady had great difficulty in standing.

Mr. Reitz: Was there induration of the muscles?

Dr. Neel: No.

Mr. Burns: Were there further urinalyses done other than what is recorded?

Dr. Neel: Yes, numerous urinalyses were done. She ran from a trace to two plus albumin. The specific gravity ranged from 1.005 to 1.010. On most occasions, she had numerous pus cells and some granular casts.

Mr. Burns: What was the latex fixation?

Dr. Neel: The latex fixation was negative.

Electrocardiograms

Mr. Reitz: This electrocardiogram was taken on October 19, 1961, and it is the only one that we have (*Figure 1*). It shows a normal sinus rhythm with a rate of about one hundred per minute. There is a normal PR interval, a normal QRS interval, and normal QT interval for this rate. Abnormal findings on this electrocardiogram are a depressed ST segment in leads 4, 5 and 6 with terminal dipping of the ST segment and small T waves in the rest of these leads. This electrocardiogram is abnormal and shows evidence of myocardial ischemia or digitalis effect.

* Although a student at the time of the conference in December, 1962, he, like the others referred to as students, received the M.D. degree in June, 1963.

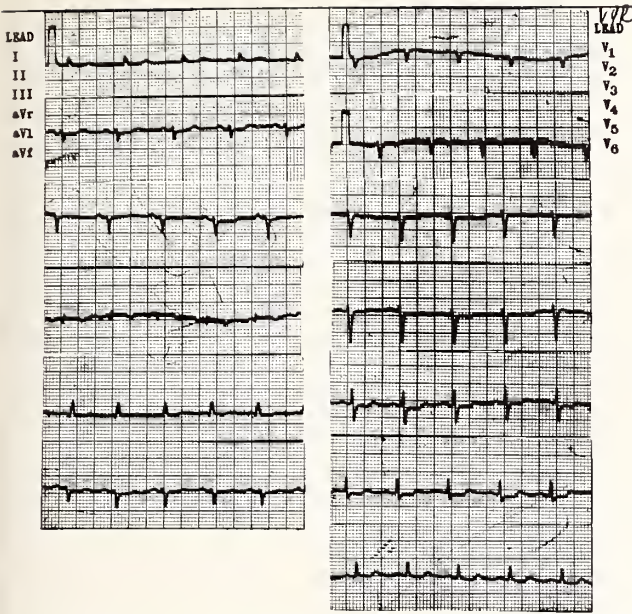


Figure 1. Electrocardiogram taken on October 19, 1961.

X-Rays

Mr. Burns: This anteroposterior (A-P) film of the chest was taken at least one week after admission (Figure 2) and shows a general decrease in density of the entire skeletal system. There is an increase in the transverse diameter of the heart. It shows a prominent aortic knob with possible calcifications and a generalized increase in the bronchovascular markings in the upper lung fields. There is no fluid evident in either base. The next film is the lateral view taken at the same time and confirms the findings of the A-P of increased bronchovascular markings, severe calcification of the aorta, and generalized demineralization of the skeletal system. The lateral view of the abdominal area shows a decrease in density of the vertebrae. It also shows some infringement of the vertebral bodies on the bony canal. There is prominent calcification of the aorta. The skull film shows a normal shape and size of the sella turcica and no osteolytic lesions. I interpret these four x-rays as showing congestive heart failure, generalized demineralization of the skeletal system compatible with osteoporosis or osteomalacia and calcification of some of the soft tissue compatible with old age.

Discussion

Mr. Etzenhouser: We base our differential diagnosis on a rather severe gastrointestinal disorder, anemia, weight loss, dehydration, and progressive deterioration in an 83-year-old woman.

Early symptoms of pernicious anemia may be a sore tongue, dysphagia, anorexia, weight loss of a mild to severe degree, weakness, and neurological findings. The uncomplicated case is characterized

by achlorhydria, decreased radiocobalamin absorption, and megaloblastic anemia with a mean corpuscular hemoglobin concentration of normal value. There may also be leucopenia, hypoprothrombinemia, bilirubinemia, and elevated levels of serum iron and uric acid. We exclude this disease because our patient had a greatly lowered mean corpuscular hemoglobin concentration, a normal platelet count, a Schilling test which was only in the questionable range, a normal uric acid, a low serum iron, and a low serum bilirubin. Her length of hospitalization also indicates a refractory disease, whereas parenteral vitamin B₁₂ should rapidly relieve most of the symptoms of pernicious anemia.

Idiopathic steatorrhea is a syndrome of faulty absorption of foods, vitamins, and water by the small bowel; and it must be considered in any patient with a wasting disorder, anemia, and dehydration. The weight loss occurs in 80 to 90 per cent of the patients, and may be severe. Constipation is the major complaint in some patients, but diarrhea is much more common. In 10 to 20 per cent of patients there is an iron deficiency anemia, but it is usually refractory to oral iron. This is because of malabsorption of iron. Most patients exhibit a macrocytic anemia. There is often a history of previous bowel difficulties as well as vague joint and bone pains. Dysphagia and the sense of esophageal irritation may accompany the anemia and hypoalbuminemia. Objective sensory



Figure 2. Chest film made on October 19, 1961.

findings and lenticular opacities are not uncommon. In this patient the age at onset, absence of a history of previous diarrhea, a normal serum calcium, absence of fatty stools, and continued dysphagia after treatment make this diagnosis less likely.

The protean nature of primary systemic amyloidosis with its multiple system involvement makes this an attractive diagnosis. The most frequent presenting findings are weakness, easy fatigability, and weight loss. As much as 41 per cent of these patients develop a large indurated tongue that is usually painless, but a sore tongue with superficial ulcerations has been noted in several instances. Symptoms related to the alimentary tract are dysphagia, dysarthria, anorexia, and constipation. They not infrequently present a large range of neurological findings and muscular atrophy. Cardiac insufficiency with orthopnea and dyspnea is a manifestation in 50 per cent of these individuals. Our patient shows multiple laboratory findings consistent with this diagnosis. Azotemia, proteinuria, and inverted albumin-globulin ratio are commonly seen in patients with this disorder. It is not uncommon to find blood in the feces. The white count can be elevated to 23,000, and there may also be a rather severe anemia. Against this diagnosis is the fact that this patient's clinical course was a rapid decline, whereas primary amyloidosis usually extends a longer period of time. Also the patient with amyloidosis often has severe involvement of the skin with formation of amyloid deposits within the subcutaneous layers. Nevertheless, we find primary amyloidosis difficult to exclude.

Carcinoma of the stomach can explain most of the symptoms presented by this patient. The physical examination, laboratory values, and clinical course could easily be explained by the presence of a bleeding carcinoma located in the fundus or cardia of the stomach, with involvement of the lower portion of the esophagus. The most common finding in carcinoma of the stomach is weight loss, a feature that is strikingly evident in our patient. Pain and obstruction associated with vomiting are often seen in gastric carcinoma, but tumors located in the fundus rarely interfere with the bolus of food. The absence of pain is not unusual in fundic cancers since this area has few pain fibers, and is frequently referred to as the silent area of the stomach. Chronic blood loss from a tumor mass often results in a rather profound macrocytic, hypochromic anemia which we feel was responsible for this patient's enlarged sore tongue. The ulceration of the tongue was probably secondary to trauma, and its persistence reflected the poor healing associated with iron deficiency states. The sore tongue next led to progressive dysphagia which interfered with proper nutrition, and contributed to her weight loss. Other deficiencies, especially of

the B-complex vitamins, may have developed, adding to the patient's glossitis. Our patient also had a disagreeable taste in her mouth. This finding is frequently seen in patients with cancer involving the cardia of the stomach, and is the result of regurgitation of food and water. Sialorrhea is often seen in patients with achlorhydria, a finding frequently associated with gastric malignancies.

The constipation seen in our patient is compatible with this diagnosis since this is commonly of more significance to the patient with stomach cancer than the gastric complaints. Occasionally the colon is investigated first only to find that colon stasis is perhaps reflexly induced by stomach carcinoma or is caused by a reduced or changed diet. Also, it has been found that a spastic colon syndrome may be present independently of a stomach growth, which may explain her hospitalization one year previously that was attributed to "bowel trouble." The physical signs found in our patient were quite nonspecific and reflected in general the results of poor nutritional intake secondary to her dysphagia and glossitis. Generalized debility is often the way patients with this disease present, and the presence of a mass in the belly, a palpable supraclavicular lymph node, and hepatomegaly are relatively late findings that need not be present for this disease to exist. A carcinoma of the stomach can also explain many of the abnormal laboratory findings seen in our patient. The elevated potassium, sodium, chloride, and phosphorus are a reflection of dehydration. The azotemia may also be explained in this manner. Of the disturbances in blood chemistry often found, azotemia is perhaps the most frequent. The high white count in our patient may have been the result of a urinary tract infection, as evidenced by the many bacteria and pus cells which were found in her urine, or it could be a response to bronchopneumonia which caused the fever and basilar rales. It is, however, most likely that it was a simple leukemoid response to the tumor itself, a finding that has produced white counts as high as 30,000 in patients with this disease. A low serum protein is sometimes found in gastric carcinoma, and it is the albumin fraction that is generally lowered the most. The reason for the low albumin is not known, but it has been postulated that it is the result of a defect in absorption as well as the inability of the liver properly to synthesize serum albumin. Of interest in our patient was her low bilirubin, but this is often found in chronic anemia secondary to blood loss.

The positive tests for occult blood in the feces certainly is an important finding in this disease. The statement is frequently made that occult blood tests in the feces of patients who have a severe, macrocytic, hypochromic anemia that is not readily ex-

plained on the basis of history and physical signs should be considered as malignancy of the gastrointestinal tract until proved otherwise. Compatible with this diagnosis is the patient's hospital course. She had gradual symptomatic improvement of her nutrition; her glossitis disappeared; and the pain in her mouth that prevented her from eating disappeared also. It should be noted, however, that she continued to have dysphagia and difficulty handling oral secretions, symptoms which we feel most likely to be because of the involvement of the cardia and terminal esophagus with tumor.

In summary, we feel that this patient had a slow-growing, ulcerating carcinoma of the cardiac portion of the stomach which caused the picture of chronic iron deficiency anemia. Her dysphagia actually had two components; the first being the glossitis which cleared with better nutrition, and the second component being the encroachment of the growth of the tumor on the lower esophagus producing difficulty with swallowing which failed to improve after 49 days of hospital management. After leaving the hospital we feel that she probably suffered a pulmonary embolus and died.

Dr. Delp: Thank you Mr. Etzenhouser. Mr. Berkley, what is your diagnosis?

Mr. Berkley: Carcinoma of the stomach.

Dr. Delp: Do you have a second diagnosis?

Mr. Berkley: Primary amyloidosis.

Dr. Delp: Mr. Reitz?

Mr. Reitz: That is my secondary diagnosis, primary systemic amyloidosis.

Dr. Delp: What would make you suspect amyloidosis, Berkley?

Mr. Berkley: She had many findings that were consistent with primary amyloidosis. Her original chief complaint would bring this to mind very quickly. The form of malabsorption syndrome that these people have is characterized by glossitis, enlarged tongue, dysphagia, and dysarthria. I also suspect that she was in cardiac failure on admission because of the basilar rales without chills and fever, which is one of the early findings of cardiac insufficiency. About one half of the people manifest this as the initial symptom. The kidney damage that she showed would lead me to believe that she had amyloidosis. She was very dry and dehydrated on admission, but the original urinalysis showing a 1.010 specific gravity together with the fact that she was losing protein also leads me to believe that she had amyloidosis. Furthermore, at least ten per cent of these people have blood in their feces.

Dr. Delp: Mr. Reitz, how do you account for the osteoporosis the patient had?

Mr. Reitz: I had no real good explanation for her groin or joint pains, or the osteoporosis. I believe

this is commonly seen in elderly people and possibly is just due to poor nutrition.

Dr. Delp: Mr. Burns, the second platelet count done was 429,000. The last platelet count was 66,000. Do you think this is worthy of any comment?

Mr. Burns: One isolated platelet count of 66,000 is within the margin of error in this procedure.

Dr. Delp: The ones before that were 157,000, 170,000, 255,000, 267,000, 342,000, 306,000, and 409,000. They were pretty much in gear. They did about 30 of them.

Mr. Burns: One would think that the bone marrow process, whatever it was, involved not only the red cells but also the platelets.

Dr. Delp: Mr. Etzenhouser, do you recall what the electrophoretic pattern values were?

Mr. Etzenhouser: No, not off hand.

Dr. Neel: The total protein was 6.56 per cent; gamma globulin, 37.6 per cent; beta globulin, 11.3 per cent; alpha₂ globulin, 9.7 per cent; alpha₁ globulin, 4.8 per cent; and albumin, 36.6 per cent.

Dr. Delp: Would you comment on that?

Mr. Etzenhouser: If we stick to our primary diagnosis of carcinoma of the stomach the rise in the gamma globulin is a little hard to explain, but as we said they can lose albumin.

Mr. Burns: The main way to explain the low albumin in carcinoma of the stomach is the transudation of proteins across the gastrointestinal tract as well as possibly some defect in glycine metabolism.

Mr. Reitz: Frequently people with low albumin are simply unable to make albumin in the liver—a decreased liver function.

Dr. Delp: Did you see the picture of the tongue quite well? What would you say is the most significant feature of that photograph?

Mr. Reitz: I thought the large size was the most significant.

Mr. Berkley: I was impressed by the ulceration.

Mr. Burns: I was impressed by the pale color.

Dr. Delp: All right. Dr. Berry, may we have your comments?

Dr. Maxwell G. Berry (internist): I was much impressed by the fact that this patient had an ulcer of the tongue. I am also impressed by the unanimity of the group that discussed the case. I am also impressed by the fact that we have not had a cancer of the stomach demonstrated for some time. However, being a little off balance for a number of reasons now, I will go ahead and say I think it is a very good possibility that she did not have cancer of the stomach. I was very much impressed by Berkley's dissertation on primary amyloidosis, and he almost sold me on this diagnosis. I do not know why he did not make that diagnosis when he was given the opportunity. He might have made quite an impression

on himself in later years. I have never seen ulceration of the tongue of this size and type in cancer of the stomach. This is not a very common disease any more, and my memory is a little foggy about the years when we used to see a lot of cancer of the stomach. But this is not a very common occurrence to my memory, and I would go against it a little bit. I would like very much to see the electrophoretic pattern if I could. I am a little impressed that the α_2 globulin is a little higher than the upper range of normal. I think it was 9.7. I have been told in the last week by two very serious institutional internists about this. One said that, without any question, if you get an α_2 globulin approaching ten it means infection. The second one told me that he felt that an α_2 globulin elevation above nine practically always meant a metastatic cancer. My opinion about this is that I do not know what a high α_2 globulin shows, but I have seen it a lot of times in patients who have collagen disease. So there you see, if the patient had a multiple myeloma it would fit this picture pretty well except for the absence of an abnormal spike on the electrophoretic pattern.

To get back to the big tongue; I do not think that this is part of cancer of the stomach. I think that this is either primary amyloidosis or something similar to it. Of course, it could be multiple myeloma although I do not know that this is a common finding in multiple myeloma.

Dr. Sloan J. Wilson (hematologist): I want to thank Dr. Berry for his comments about amyloidosis. I would like to make a few comments about our findings when we first saw this patient. We were very impressed by the huge ulceration of the tongue. It takes a great deal of talking to a woman over 80 years of age to induce her to have her tongue rebiopsied, particularly when she already has a painful lesion. One of the residents did talk her into having it rebiopsied. It was sectioned and resectioned. It is my opinion that the diagnosis in this case has only been made because a resident was very persistent. From there on the story is most interesting. This woman did have a slightly elevated gamma globulin. We concentrated her urine and found an increase in beta globulin which is not α_2 globulin, and this makes it even more confusing, Dr. Berry.

Dr. Delp: Dr. Curran, would you like to look at some of these electrophoretic patterns? I did not give these to the students, and I think I should have made slides of them.

Dr. George L. Curran (internist): I notice on one of these the gamma globulin goes as high as 72 per cent. I think that this perhaps suggests that it was not infection alone that we were dealing with,

but raises the question of whether this was a peculiar type of collagen disease or something on the order of multiple myeloma. One thing that keeps coming back to me is the fact that I think this lady had significant disease in her lungs. Her chest plate looked to me as if she had some long-standing infiltrative process, and we know that her death occurred after apparently minor respiratory involvements. Another thing that intrigued me: as this case was presented we got a little information that was not presented in the protocol, and I wonder if our attention was being drawn to the fact that the fingers were quite tight and shiny. When one has an individual who has dysphagia, pulmonary findings, and some flexion deformities in the fingers one has to think of scleroderma. This would certainly go along with hypergammaglobulinemia. As far as the dysphagia, the pulmonary lesions, and so forth are concerned, I think we should have included in our differential diagnosis Wegner's granulomatosis.

Dr. Delp: Thank you, Dr. Curran. Dr. Neel, was this lady's dysphagia because her tongue was in the way, or was there something the matter in her throat and her esophagus?

Dr. Neel: Initially it was because of a very painful tongue, but as this cleared and she no longer had ulcerations of her tongue she continued to have difficulty because of the size of her tongue.

Dr. Delp: Dr. McKee, do you have any comments about this case?

Dr. Wallace P. McKee (internist): I was impressed by the healing. It seemed a little unusual to me that her tongue cleared up completely. People with amyloidosis of the tongue usually have lesions that just go on to necrosis. Another thing surprised me—I do not think that I am quite so old that I am the only one that ever heard of it—that is, that the students did not fit all this dysphagia and gastric carcinoma together in a syndrome which is called the Plummer-Vinson syndrome. I think the electrophoretic patterns are really not of much help. They would go with an infectious process or with some sort of collagen disease. I really do not know what is wrong with this patient.

Dr. Delp: Who would like to make some comments about why the platelet count went down from 490,000 to 66,000. Dr. Brown, do you have any suggestions about this?

Dr. Robert W. Brown (internist): There are some things that will cause platelet count to go down. Among these are intravascular clotting which occurs rapidly and it takes a while for the platelet count to go back up, and a second one is drug therapy. The list of drugs that can cause this is almost as long as the list of drugs. The third thing would

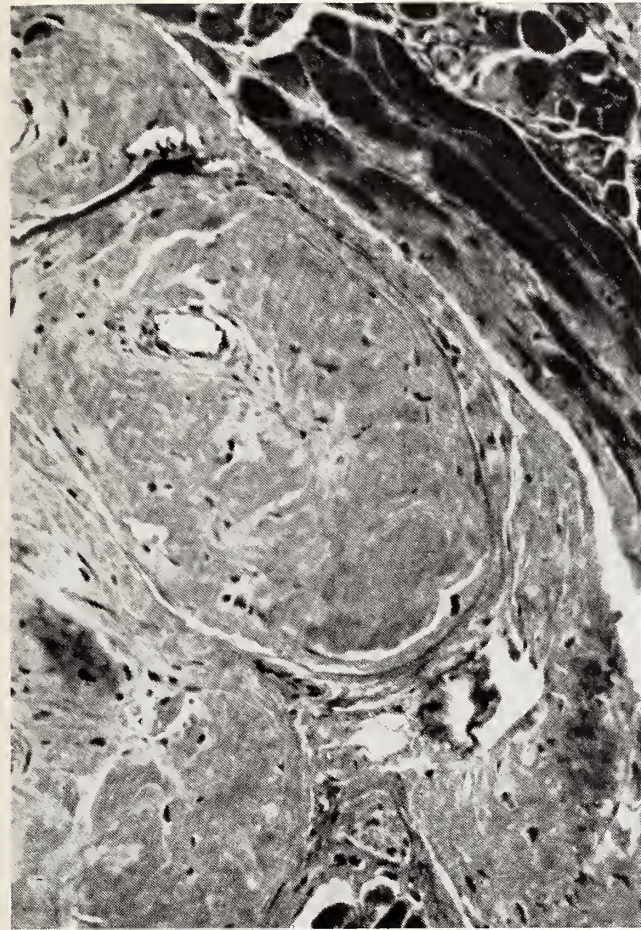


Figure 3. Tongue showing amyloid deposits.

be x-radiation which might have had some effect on her platelet count.

Pathology Report

Dr. John R. Carter (pathologist): The pathological alterations in this case would indicate that the patient had an unusual variant of a not so unusual neoplastic disease process.

On general inspection, we observed atrophy of the skin. There were no fusiform changes of the fingers, but there was certainly atrophy and prominence of the bones of the wrist and of the fingers. Kyphosis was apparent and there was generalized atrophy of the musculature. On opening of the body cavities atrophy of the viscera of the usual senile type commensurate with a lady 83 years old was noted. The bony tissues cut very readily indicating some very definite abnormality, either osteomalacia or osteoporosis.

Since this lady's symptoms started with her tongue, we shall begin there and state that she did indeed have macroglossia. At the time of autopsy the areas of infection and ulceration had healed leaving a very atrophic epithelium. Multiple sections through the tongue revealed discrete, well-circumscribed gray-

brown masses that bulged above the cut surface. Histologically (*Figure 3*) these masses were determined to be deposits of amyloid. In general, the tissues throughout the body showed the most ubiquitous distribution of amyloid I have ever seen in any individual; virtually every artery and arteriole in every organ was involved. Most of the masses of amyloid, including those in the tongue, were of the nodule variety. The lumina of the vessels were not compromised, and the amyloid was deposited in large concentric masses outside the endothelial lining of the vessels. There was infiltration, replacement and compression atrophy of adjacent muscle tissue. Special stains were all positive for amyloid.

Multiple sections of the heart revealed interstitial fibrosis and some evidence of ischemia, but by and large the most striking changes were the deposits of amyloid in virtually every vessel in the heart (*Figure 4*). Scattered throughout the entire myocardium, in the interstices, were large, bulbous, if you will, masses or deposits of amyloid that encroached on the adjacent myocardial tissue causing compression atrophy. It would certainly seem reasonable to suppose that there might have been interference with the conduction mechanism and that possibly one of the terminal events might have been some type of cardiac arrhythmia.

In the gastrointestinal tract there was also amyloidosis involving primarily the vessels. Although the amyloid deposits were found from the tongue to the anus, in all portions of the gastrointestinal tract, the small bowel was less involved and the stomach more involved than any other portions of the tract. In the submucosal area of the stomach, giant cells about vessels in a host reaction to the amyloid were conspicuous. In addition, amyloid was scattered indiscriminately between the smooth muscle bundles of the stomach. As a matter of fact, 50 to 60 per cent of the musculature was replaced by amyloid.

In the liver the veins were perfectly normal, but the arteries were involved by amyloid. There was no parenchymatous involvement of the liver as there so often is in the secondary type of amyloidosis.

Sections of the submucosa of the bladder also showed amyloid deposits, again with foreign body giant cells.

The diaphragm was literally studded by small nodular amyloid masses (*Figure 5*), very well circumscribed, which encroached upon the musculature. The skeletal musculature throughout the body was the site of amyloid deposits, again with associated secondary atrophy.

Both kidneys were moderately atrophic. Each weighed about 105 Gm. The surface was finely granular and the cortex measured about 0.5 cm. in

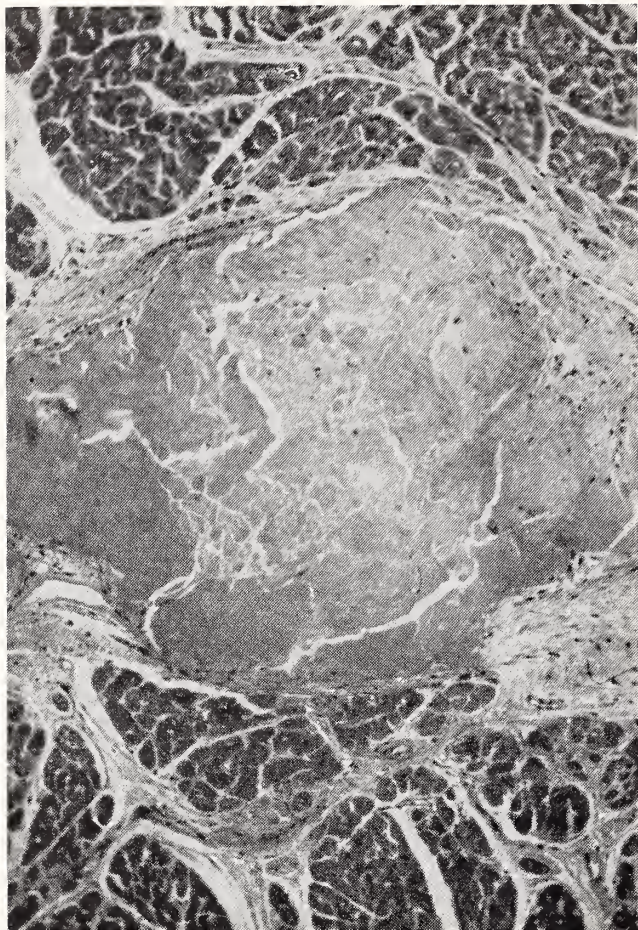


Figure 4. Heart showing amyloid deposits.

thickness. Histological sections (*Figure 6*) revealed a variety of abnormalities. Many of the glomeruli appeared normal, but many others revealed amyloid deposits in the basement membrane of the capillary tufts. A few tubules showed compensatory hypertrophy and hyperplasia, but the majority were atrophic and showed varying degrees of degenerative change to outright necrosis. Many tubules contained protein casts. Inflammatory cells in the interstitial tissue were largely lymphocytes and not plasma cells, a point which deserves comment later. Again the arterioles of the kidney were the site of amyloid deposits. Similarly, amyloid was present in and about the basement membranes of the tubules causing considerable distortion of them.

We could not demonstrate any unequivocal evidence of rheumatoid arthritis in this patient, although there was indeed generalized osteoporosis of a very severe degree. Cartilaginous changes, pannus formation and invasion by vascular granulation tissue, common pathological features of rheumatoid arthritis, were not found in the bones and joints that we examined. In all sections, the marrow was exceedingly hyperplastic. There was pressure on the end-

osteal surface as a result of this rather striking hyperplasia, and the hyperplastic change was the result of a neoplastic change of plasma cells. There was indeed a diffuse myelomatosis, a neoplasm of plasma cells of a particular variant. There was also a proliferation of normoblasts in areas. As a matter of fact, there were many other foci of myeloid and erythroid elements scattered throughout the neoplastic tissue. The neoplastic cells were largely immature plasma cells and plasmablasts (*Figure 7*). Megakaryocytes were quite numerous, although the platelet count had dropped.

Osteoporosis was a conspicuous feature of this case. The mechanism, generally stated, is that there is a defect in protein synthesis of the organic matrix thus resulting in a relative decrease of the inorganic salts deposited in the organic matrix. This is probably true in many instances. It is also true in some cases of osteoporosis that there is a true calcium deficit of a generalized type that likewise impedes or interferes with protein synthesis of the organic matrix of bone. In this particular case, however, we have in addition to these factors something else which is apparent pathologically. First of all, in the bone



Figure 5. Diaphragm showing amyloid deposits.

sections, in addition to the ever-present amyloid in the vessels of the periosteum, granulation and fibrous tissue from the periosteum was observed to replace and resorb the bone (*Figure 8*). Similarly, from the endosteal surface fibroblastic tissue was proliferating, probably secondarily to the pressure exerted by the neoplastic tissue and causing resorption and replacement of bone with formation of so-called Howship's lacunae similar to that which we see in healing osteomyelitis. In short, we have an absorption of bone by fibrous tissue brought about by a pressure phenomenon.

Regarding the concept of diffuse myelomatosis, it is worth pointing out that in this country this variant of plasma cell myeloma is rather uncommon. It has been emphasized by the French and Scandinavian writers where in their countries the incidence of this variant is apparently quite high. The reason for the rarity of this form in the United States is now known, but in any event (conceptually at least) we should consider the process nothing more than a variant of plasma cell myeloma. One of the most characteristic features of the variant is the diffuse

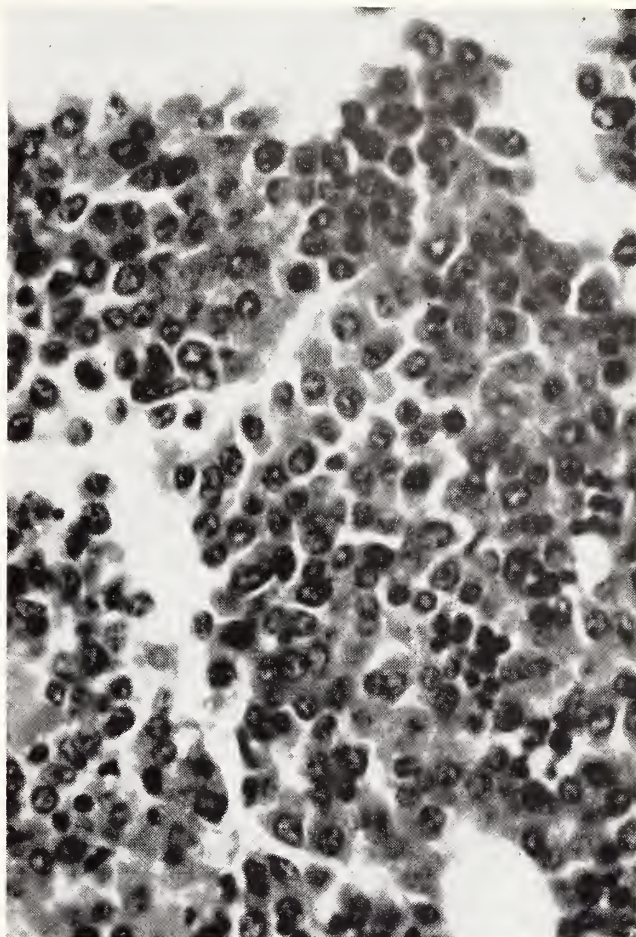


Figure 7. Bone marrow: Replacement of normal marrow elements by plasmacytes and plasmablasts.

osteoporosis rather than the definitive punched-out circumscribed areas in bone. Another is that quite characteristically normal hematopoietic elements will be interspersed either in foci or indiscriminately with the neoplastic cells. This can pose a real diagnostic problem to the hematologist at times in trying to decide whether a true plasma cell neoplasm exists or whether some other disease process such as trichinosis, Hodgkin's disease or viral disease may be present. Another interesting feature concerning this variant is that, unlike the classic form of multiple myeloma which generally begins years before as a solitary lesion, there is no such antecedent history in diffuse myelomatosis.

In summary then, we have a patient with diffuse plasma cell myelomatosis without, interestingly enough, any visceral involvement. Generalized osteoporosis and generalized primary amyloidosis of a vascular type were conspicuous features. Nodular amyloidosis of the tongue with macroglossia was an outstanding initial finding.

In answer to Dr. Curran's question concerning the lungs, there was indeed some vesicular emphysema which was more severe in the right than in the left

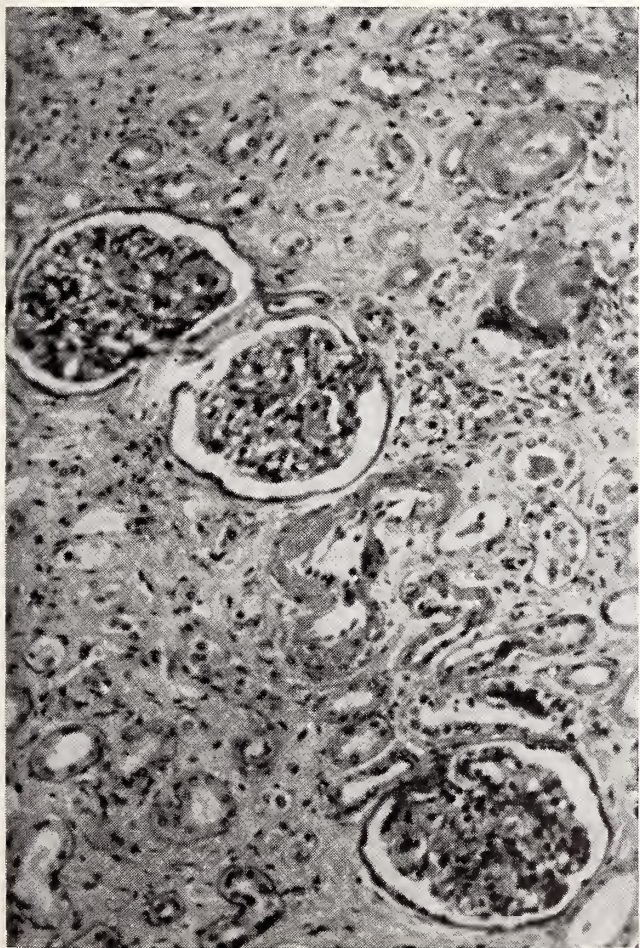


Figure 6. Kidney showing amyloid deposits about basement membranes of tubules. Note foreign body giant cell reaction to the foreign protein.



Figure 8. Cortical bone showing resorption by granulation tissue. Note thickened vessels due to amyloid deposits.

lung. There was evidence of old organized pneumonitis and certainly one of the findings that contributed, in part, to her death were the focal areas of pneumonitis and acute bronchitis.

Primary Diagnoses

- Diffuse plasma cell myelomatosis.
- Generalized osteoporosis.
- Generalized vascular amyloidosis, primary type.
- Nodular amyloidosis of tongue with macroglossia.

References

1. Carson, C. P., Ackerman, L. V., and Maltby, J. D.: Plasma cell myeloma, a clinical, pathologic and roentgenologic review of 90 cases. *Am. J. Clin. Path.*, 25:849, 1955.
2. Boidin, L., Boussier, J., and Delzant, O.: Les alterations osseuses diffuses au cours de syelomes et des myelomes leucemiques et aleucemiques. *Sang*, 15:1, 1942-43.
3. Marchal, G., and Mallet, L.: Maladie de Kahler a type de myelome en nappes. *Sang*, 16:1, 1944-45.
4. Ask-Upmark, E.: On the diagnosis of myelomatosis. *Acta med. Scandinav.*, 121:217, 1945.
5. Combined Staffs of Columbia University School of Medicine and Presbyterian Hospital, New York, Multiple

Myeloma: Current clinical and chemical concepts. *Am. J. Med.*, 23:283, 1957.

6. Snapper, I.: Osteoporosis. *Med. Clin. North Am.*, 36:847, 1952.

LINKS BETWEEN RHEUMATIC AND INTESTINAL DISEASES

Why arthritis symptoms often accompany certain intestinal diseases and why certain forms of arthritis exhibit gastrointestinal symptoms are mysteries which should be carefully studied, according to The Arthritis Foundation's *Bulletin on Rheumatic Diseases*.

Writing in the Foundation's medical publication, which goes to 68,000 physicians, Seattle Drs. Kenneth R. Wilske and John L. Decker suggest a closer look at relationships between intestinal and rheumatic disease to improve diagnosis and treatment and to seek a common cause for joint involvement in specific intestinal diseases.

Why some patients with these diseases—ulcerative colitis, regional enteritis and Whipple's disease—have pain and swelling in joints is not known, but Drs. Wilske and Decker point out that the accompanying arthritis symptoms are not variations of rheumatoid arthritis, as they have long been considered.

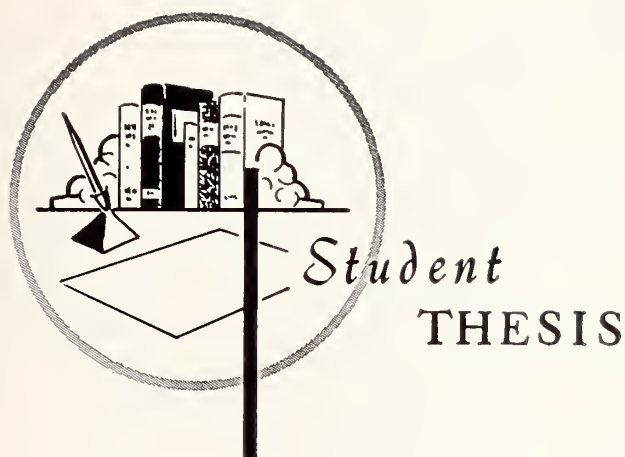
However, ankylosing spondylitis—a rheumatic disease—causing bone fusion and immobility of the spine, is associated with these disorders with "astonishing frequency." Ankylosing spondylitis is thought to be 20 times more frequent in patients with ulcerative colitis than in the general population. Approximately one of every five patients seen for ulcerative colitis—which affects all ages, but primarily strikes young adults—has some form of joint disease from mild to severe, the report notes.

Arthritis is also seen in about five per cent of patients having regional enteritis—a condition causing inflammation in the small intestine and other parts of the gastrointestinal tract. As with ulcerative colitis, although all ages are susceptible, young adults are the primary target. Spinal disease associated with regional enteritis is exactly the same as that seen in ulcerative colitis, the *Bulletin* states. Here too, it develops into permanent bone and joint changes, indistinguishable from ankylosing spondylitis. Treatment is aimed at controlling the underlying regional enteritis.

The reverse situation occurs with diseases such as systemic lupus erythematosus, progressive systemic sclerosis and Reiter's syndrome—which are considered primarily as rheumatic diseases. They manifest gastrointestinal and joint symptoms.

There are two main theories regarding the cause of the arthritic symptoms seen with intestinal diseases. These are: (1) that an immune reaction or mechanism may produce the external arthritis damage and (2) that it may be caused by some type of infection.

The Arthritis Foundation, the only voluntary national agency devoted to arthritis and the rheumatic diseases, supports a program of research, patient care and public education for the more than 12,000,000 arthritis sufferers in the United States.



Alimentary Lipemia and Hypercoagulation of the Blood

DANIEL L. SCHLOZMAN, M.D.,* *Kansas City, Kansas*

IN 1852, ROKITANSKY explained the origin of the atheromatous plaque as the end stage of a degenerated thrombus. Virchow discarded this view because the lipid deposits of the plaque were subintimal. He felt that the atheroma was best explained by fatty infiltration. Anitschow's classical cholesterol feeding experiments and many subsequent epidemiologic studies have supported Virchow's theory of fatty infiltration. In recent years, however, there has been renewed interest in Rokitansky's theory.

This renewed interest in the thrombotic etiology of atherosclerosis began with Duguid, who in 1946 found that serial sections of a thrombus blended indistinguishably into an atheromatous plaque. More recent workers have demonstrated intimal regeneration over a thrombus as well as fibrin within the atheromata. Others have shown that serum-induced thrombi have the appearance of atheromata when examined months later. Morgan has recently reviewed additional anatomical evidence which challenges the fatty infiltration hypothesis.

Anatomical evidence, however, is insufficient to substantiate the thrombotic theory for it does not account for the unquestioned relationship between a fatty diet, blood lipids, and atherosclerosis. The prob-

lem lies in finding a relationship between fatty diets and thrombus formation; for, if alimentary lipemia can produce a hypercoagulable state, then the thrombotic theory of atherosclerosis is capable of accounting for the available information. The purpose of this paper is to review the evidence in favor of a relationship between alimentary lipemia and a hypercoagulable state.

Definition of Terms

The concepts of thrombosis and coagulation need careful distinction. By definition, a thrombus is an *in vivo* phenomenon of solidification of blood; a clot is the *in vitro* brother of the thrombus. Paraffin sections of the two show that histologically they are not identical processes.

One of the problems of investigation is that the majority of the controlled experiments are based on demonstrating increased clotting activity rather than thrombus formation. Nevertheless, it is reasonable to assume a strong relationship between these similar-but-not-identical processes. With this problem in mind one may now define a hypercoagulable state as an abnormal condition characterized by an increased propensity for blood to solidify as compared with the "normal" state.

The Clotting Time

The clotting time is one of the earliest and most frequently utilized tests of hypercoagulable states. It

* This is one of a group of theses written by fourth year students at the University of Kansas School of Medicine, selected for publication by the Editorial Board from a group judged to be the best by the faculty at the school. Dr. Schlozman is now serving internship at the University of Kansas Medical Center.

must be performed with platelet-free blood, or in silicone or collodion-coated tubes; for in the presence of platelets or a glass surface no effect is demonstrable. Utilizing silicone or collodion-coated tubes, many workers have shown statistically significantly diminished clotting times following a high-fat test meal. They did not, however, find any correlation between the effect on the clotting time and the degree of lipemia or the saturation of the fat in the test meals. Other workers have been unable to confirm even a statistically significant difference in the clotting time when using rigid controls. However, almost all of the studies demonstrated at least a trend, if not a significant difference, toward a decreased clotting time during alimentary lipemia. Because of this general lack of agreement, other more sensitive tests of the early stages of coagulation were investigated.

Stypven Time

The Stypven or Russel viper venom time is a one-stage prothrombin time utilizing an incomplete thromboplastin derived from snake venom. It is thought to be deficient in factor V and platelet lipid, both of which, when added to the test solution, result in prothrombin-conversion activity equal to intrinsic thromboplastin. In 1941, McFarlane *et al.* found that fat removed from plasma by centrifugation resulted in no coagulation in a Stypven system, but that coagulation would occur by reconstitution, or by the addition of either ten per cent lecithin or cream. In 1953, Fullerton *et al.* found that a fatty meal of bacon, eggs, bread and butter led to a shortened clotting time with recalcified plasma and Russel viper venom. His work has been repeatedly confirmed, resulting in almost universal agreement that the Stypven time is significantly and reproducibly shortened during alimentary lipemia. O'Brien has extensively investigated the active factors within the lipids responsible for shortening of the Stypven time. He concluded that triglycerides were inactive, free fatty acids only slightly active, and phospholipids significantly active. Further analysis revealed the phospholipid activity to be present in crude lecithins and cephalins but absent in the highly purified components. This active principle, an impurity in the crude lecithins and cephalins, was identified as phosphatidyl ethanolamine. Thus it appeared that the only lipids of significant importance regarding clot accelerating activity were those which contained moderate quantities of phosphatidyl ethanolamine. The significance of this data has been challenged on the grounds that one is measuring a co-factor to the venom rather than a truly hypercoagulable state.

Therefore, the data may not be applicable to a physiological coagulation system.

Thromboplastin Generation Time and Variants

Another approach to the problem of alimentary lipemia and hypercoagulation is through the use of variations of the thromboplastin generation test. The classical scheme of Biggs has met with little success; however, Schmidt and Thompson have produced sensitive tests by diluting the classical plasma and serum systems in order to prolong the end point. Utilizing this diluted system, Schmidt studied the blood of 15 normal subjects before and four hours after a test meal containing 70-75 Gm. of butter. The dilute thromboplastin generation time was consistently shortened; and, in contrast to studies utilizing the clotting time, the effect was directly proportional to the degree of lipemia. Merskey *et al.* challenge this evidence on the grounds that the clotting system is too weak to provide significant evidence of increased coagulability.

Atherogenic Diets and Blood Factors

Several animal studies of rats fed thrombogenic or atherogenic diets have shown consistent elevation of a number of coagulation factors. Davidson, for instance, found an increase in factors I, II, V, VII, VIII, IX and X in rats placed on a diet of animal fat, thiouracil, sodium cholate, and cholesterol. Merskey *et al.* and Fisher *et al.* have found substantially the same results. Merskey found that he could produce a similar result in the absence of additional fat and thiouracil. This casts doubt on the influence of the fat component in the production of the hypercoagulable state.

In Vitro Thrombus Formation

The studies discussed so far have dealt with the effect of fats on the in vitro phenomenon of coagulation. Their relevance to the in vivo thrombotic phenomenon was questioned earlier and need only be mentioned again to introduce a new and promising approach to this dilemma—the in vitro thrombus. Chandler found that, if a small quantity of blood were placed in a closed loop of plastic tubing and rotated on a tilted turntable, the solidified blood formed a thrombus histologically identical with its in vivo counterpart. Utilizing a modification of this test system, Conner has studied the effects of the addition of a variety of sodium salts of fatty acids on the in vitro thrombus time. He found that long-chain saturated fatty acids significantly accelerated thrombosis when used in physiological concentrations. The

short-chain saturated and long-chain unsaturated fatty acids had no demonstrable effect.

Conner suggested that the action of the fatty acids might be the result of micelle formation; that is, the formation of negatively charged colloidal particles. Micelles form readily in fats of low solubility and decrease in number as the fats become more soluble. Thus, the long-chain saturated fats form more micelles and consequently have the largest number of negative charges. Conner feels that this property has a significant effect on the Hageman Factor (HF), one of the most important factors for maintaining blood fluidity. Since HF is known to be activated by negatively charged surfaces such as glass, kaolin, and bentonite and to remain inactive in the presence of neutral or positive surfaces such as silicone, he postulates that micelles formed by the long-chain saturated fats are sufficiently negative to activate the HF with the resultant initiation of the coagulation process. Conner's evidence in favor of this theory is that the long-chain fatty acids have no effect on blood which is poor in HF or blood in which the HF has previously been activated. Critics of this work point out that salts of fatty acids rather than pure fatty acids are used, and that these salts may be sufficiently insoluble to produce coagulation from this foreign particulate matter.

Anticoagulant Systems

The production of a hyperthrombotic state by alimentary lipemia conceivably can occur through inhibition of the fibrinolytic system. Again, the evidence is conflicting. Greig demonstrated inhibition of fibrinolytic activity in normal patients during alimentary lipemia. Inhibition occurred only when saturated fats were used. The effect was not demonstrable with unsaturated oils. This work has been repeatedly confirmed. On the other hand, Hougie and Ogston were unable to demonstrate significant inhibition of fibrinolysis regardless of the saturation of the fat in the test meal. This inconsistency may be the result of relatively crude test systems and variations in experimental design.

Heparin, too, may be an important factor. Kommerell points out that its dual role as both a fat-clearing agent and anticoagulant places heparin in a unique position; for, as more heparin is utilized to clear the blood stream of excessive lipids, less of it may be available to act as an anticoagulant. The balance between procoagulant and anticoagulant systems might be temporarily altered in the direction of coagulation. In favor of this hypothesis he cites evidence that heparinoid substances and possibly the serum heparin is reduced following a fatty meal.

Studies in Atherosclerotic Patients

Atherosclerotic patients may have a coagulation defect which is not present in the general population. A number of studies suggest this possibility. MacDonald found the thromboplastin generation time, platelet stickiness, and Stypven time to be significantly altered in patients with ischemic heart disease. Murphy and Mustard obtained similar results in platelet survival and turnover studies; and Mustard demonstrated a significant difference in the thromboplastin generation test between the two groups. Moolten *et al.* also found the platelet adhesiveness significantly different in atherosclerotic patients.

Studies comparing the response of these two groups to a fatty meal are conflicting. O'Brien found no significant difference in the Stypven time, silicone clotting time, and whole blood clotting time in glass in atherosclerotic and control patients during alimentary lipemia. Likewise, Moolten *et al.* obtained statistically insignificant differences in platelet adhesiveness of the two groups when measured after a fatty meal. However, Mustard determined blood factors VIII (AHG) and IX (PTC), Stypven time, platelet level, and silicone clotting time in the blood of atherosclerotic and control patients subjected to a controlled fatty test meal. Except for the silicone clotting time he demonstrated a significant difference between atherosclerotic patients and controls, providing the controls also had a negative family history of atherosclerosis. He found that control subjects with a positive family history of atherosclerosis behaved essentially similar to patients with clinical disease. He concluded that patients with a positive family history as well as those with clinical atherosclerosis show increased coagulation activity during alimentary lipemia. The possibility exists that the negative results of O'Brien and Moolten might be the result of insufficient controls.

Summary

Evidence of relationship between alimentary lipemia and increased coagulation activity was reviewed. Numerous parameters of hypercoagulation have been studied. Virtually no favorable study has gone unchallenged, either because of the experimental design or the failure of others to confirm the work. Since a multiplicity of factors are involved, it is difficult to design the "perfect experiment." Nevertheless, most of the evidence favors a relationship between alimentary lipemia and hypercoagulation. Conclusive proof of such a relationship remains a task for future workers.

EDITOR'S NOTE: References may be obtained by writing the JOURNAL, 315 West 4th Street, Topeka, Kansas 66603.

The President's Message

DEAR DOCTOR:

I find that when one anticipates assuming the responsibilities of President of the Kansas Medical Society he may do so with confidence realizing the wealth of experienced, highly knowledgeable, and willing physicians he may call on to serve on committees or in any other capacity for the good of Kansas Medicine. I intend to use as much of this talent as I possibly can in the conduct of Society affairs.

I would be remiss if I did not take this opportunity to commend Dr. John Mitchell for serving us as President so well in 1964-65. His was a difficult year with Kerr-Mills negotiations and legislative problems. He handled them all with wisdom, firmness, and decorum.



Sincerely,

George E. Burkett, Jr., M.D.

President



Editorial COMMENT

A small pamphlet, published by the Pharmaceutical Manufacturers Association, entitled *Key Facts on the U. S. Prescription Drug Industry*, is quite obviously directed toward lay consumption. It contains some statements physicians might find interesting and perhaps helpful when discussing with his patients the subject of prescription costs. The following statements are taken from this pamphlet.

The average retail price of a prescription is \$3.35: 58.1 per cent of all prescriptions cost \$3.00 or less. 74 per cent cost \$4.00 or less. Only one in one hundred costs \$10.00 or more. The manufacturer's net profit on the average prescription is 16 cents.

In 1930 prescriptions accounted for 20 per cent of medical care cost. Today—18.4 per cent. Parenthetically, this closely approximates figures from the United States Department of Commerce on distribution of the health care dollar. From that source, in 1943 drugs cost 24 cents; physicians services—26 cents; hospital care—18 cents. By 1953 drugs were 19 cents; physician services—25 cents; hospital care—28 cents.

Back to the pamphlet. It states that in 1963 Americans spent \$4.3 billion for drugs and sundries. In the same year \$19.3 billion for medical care (except drugs). In the same year, Americans spent \$19.2 billion for alcohol and tobacco; \$22.7 billion for recreation; \$47.2 billion for transportation; and \$76.0 billion for food.

Seven out of ten prescriptions today are for drugs not known in 1950. Research represents a major item in drug costs. In 1965 the pharmaceutical industry spent \$346 million in research, of which 98 per cent is privately financed and only 2 per cent government assisted. Behind every new drug that has reached the public in the past decade, it is estimated that the industry has spent some \$4 million in research and development costs.

For example, to maintain one research scientist and

provide him with proper technical assistance and equipment, the pharmaceutical industry spends an average of \$36,000 a year. Some report a cost as high as \$75,000 annually for each doctoral-level research scientist.

Each year the drug industry tests more than 100,000 substances which may yield about 20 completely new and marketable drugs. This means that, for every useful drug product that reaches the public, more than 5,000 compounds are studied and discarded.

New Service for Physicians

A new and welcome service for members of the medical profession is being offered by Group Travel Services, Inc. of Kansas City, Missouri.

The new and unique facility, Medical Meetings International (MMI), is a conspectus of distinguished world wide scientific meetings with corresponding travel arrangements which makes it possible for the physician to combine attendance at such meetings with pleasures of travel abroad. An 18-page brochure, available upon request, contains listings in such meeting locales as Europe, the Orient or Hawaii. Among those listed for 1965 are the International Congress of Psychosomatic Medicine in Obstetrics and Gynecology, Vienna, Austria; the annual assembly of the World Medical Association, London, England; the International Congress of Pediatrics, Tokyo, Japan; and the American Academy of General Practice, Honolulu, Hawaii. It is planned that a new brochure will be released each fall, listing meetings scheduled for the following year.

Further information about MMI and copies of the brochure may be obtained by writing Mr. Lee Kirkland, Medical Meetings International, Broadway at 34th Street, Kansas City, Missouri 64111.



Personalities—IN KANSAS MEDICINE

Free diagnostic clinics for crippled children were held in Pratt, Belleville and Garden City in recent months. Examining the children at the Pratt clinic were **Cline D. Hensley, Jr.** and **John F. Lance, Jr.**, Wichita; at Belleville, **Spencer McCrae**, Salina, and **G. Bernard Joyce**, Topeka; and at Garden City, **Norman C. Bos**, Hutchinson; **H. O. Anderson** and **H. O. Marsh**, Wichita.

W. Walter Menninger, Topeka, and **Lee S. Fent**, Newton, participated in the Student Health Week Program at Kansas State University in Manhattan in April.

In March, **H. L. Collins**, Beloit, was certified as a Diplomat of the International Board of Proctology.

Carl J. W. Wilen, Topeka, a staff member of the medical service at the Topeka V.A. Hospital, was awarded the Director's Certificate of Commendation. Dr. Wilen was cited for his "outstanding contributions to the care of patients afflicted with cardio-pulmonary diseases."

C. Everett Brown, Pratt, attended the meeting of the Southwest Allergy Society held in New Orleans in March.

Among those participating in the annual Medical Day program at the University of Kansas Medical Center in March were **C. Arden Miller**, dean of the medical school; **John C. Mitchell**, Salina; **Thomas P. Butcher**, Emporia; **John A. Segerson** and **Francis T. Collins**, both of Topeka.

W. David Francisco, Kansas City, was the speaker

at the annual dinner meeting of the Wyandotte County Tuberculosis and Health Association in April. Dr. Francisco, who is head of the cerebral palsy clinic at KUMC, discussed his participation in an orthopedic overseas project in Nigeria.

Donald B. Rinsley, Topeka, spoke at the annual banquet of the Kansas State University Student Education Association recently held in Manhattan.

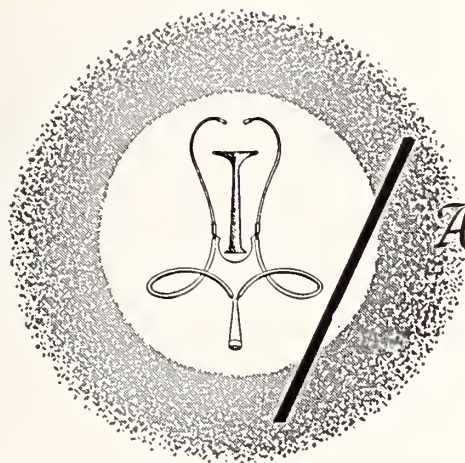
"The History of Medicine" was the subject of **W. V. Hartman's** talk before the Crawford County Historical Society in April. Dr. Hartman, who is now retired and lives in Clayton, Missouri, formerly practiced in Pittsburgh.

A special program honoring **Fred Schenck**, retired Burlingame physician was held in the community last month. **Orville R. Clark**, Topeka, delivered an address at the program.

Harry H. White of the University of Kansas Medical Center has been named one of the 25 Markle scholars in academic medicine by the John and Mary K. Markle Foundation of New York.

"The Problems of the Aging" was discussed by **D. V. Preheim**, Newton, at the 14th annual state meeting of the Kansas Federation of Licensed Practical Nurses held in Great Bend last month.

Howard U. Kennedy, Topeka, has been appointed medical counsel for the National Reserve Life Insurance Company.



Announcements

Professional meetings, conferences, and postgraduate courses of national importance are listed for the DOCTOR'S CALENDAR. Notice of the session is posted in advance to allow the physician time to make preparations.

The Kansas Chapter of the American College of Surgeons is sponsoring an essay contest among the residents in surgical training in the state of Kansas. Of the essays submitted before June, 1965, the winner will receive \$200 from the Kansas Chapter of ACS. It is hoped that the winner will use this money to travel to the national meeting of the American College of Surgeons, wherever it may be in the United States. The essay is to be presented to the Kansas Chapter of the American College of Surgeons at their meeting on October 31, 1965, in Wichita, Kansas.

The American Society of Oral Surgeons has announced that two cash awards (first prize \$300; second prize \$200) will be presented at the 47th annual meeting in Denver, November 2-6, 1965. These awards will be for superior, original unpublished manuscripts concerning any phase of research related to oral surgery completed during the current year. Individuals interested should write to the American Society of Oral Surgeons, 919 North Michigan, Chicago, for further information.

The Academy of Psychosomatic Medicine announces the Annual Gold Medal Award contest for the best paper (not over 4,000 words) on a clinical or research subject in the field of psychosomatic medicine. The winner will receive the Gold Medal and deliver his paper at the 12th Annual Convention of the Academy of Psychosomatic Medicine in Chicago, October, 1965, and the paper will be published in *Psychosomatics*, the official journal of the Academy.

The winner's travel expenses will be paid to and from the meeting. The committee reserves the right to submit all articles including the winning entry, to *Psychosomatics*, the official Academy journal. Manuscripts not accepted for publication by *Psychosomatics* will be returned to their authors.

The deadline date for submission of manuscripts is July 1, 1965. For full particulars write to Benjamin Schneider, M.D., Chairman, 123 E. Market Street, Danville, Pennsylvania.

MAY

May 27

16th annual Dr. F. G. Thompson, Sr., Lectureship, Thompson-Brumm-Knepper Clinic, St. Joseph, Missouri. Dr. Stephen E. Reid, M.D., Northwestern University Medical School will speak on the subject "Radiotelemetry in the Study of Head Injuries in Football and Other Associated Athletic Injuries."

JUNE

June 6-11

Golden Jubilee Catholic Hospital Association Convention, Kiel Auditorium, St. Louis. For information write the CHA, 1438 S. Grand Blvd., St. Louis 63104.

June 16

Symposium on Hormones and Chemotherapy for Cancer—a Critical Appraisal, Sponsored by the American Cancer Society, Drake Hotel, Philadelphia. Write Director of Professional Education, American Cancer Society, 219 E. 42nd St., New York 10017 for further information.

June 20-24

114th Annual AMA Convention, New York City.

June 20

7th Annual AMA-ASHA Preconvention Session on School Health, New York City.

POSTGRADUATE COURSES

American College of Physicians.

May 24-26

Current Concepts in Gastroenterology, Montreal, Que., Canada.

June 7-11

Basic Principles in Internal Medicine, Iowa City, Iowa.

June 9-11

The Hemodynamic Basis for Auscultation, New York City.

For additional information and registration write Edward C. Rosenow, Jr., M.D., The American College

(Continued on page 264)



MARRIAGE COUNSELING IN MEDICAL PRACTICE, edited by Ethel M. Nash, M.A., Lucie Jessner, M.D., and D. Wilfred Abse, M.D. University of North Carolina Press, 1964. 368 pages. \$8.00.

This book is an outgrowth of two successful symposia on medical aspects of marriage counseling held at Greensboro, North Carolina, 1961 and Chapel Hill, North Carolina, 1962.

Case presentations are used extensively to demonstrate a variety of problems as manifested directly or indirectly by a marital partner. The patient with whom we are primarily concerned is the married couple. Sex problems are *Number One*—and take up most of the book. The female needs treatment most—or is the partner most readily accessible for treatment. The authors recommend a variety of solutions: routine dilatation of the vaginal hymen prior to marriage; intercourse during menses and two weeks post partum; psychiatric treatment for the wife of the alcoholic husband, etc.

The material presented by the various authors accentuates the bizarre and the unusual in marriage problems. This reader questions that the case histories stated represent the cross section of patient material in the private practice of medicine.

On the preventive side of marital problems, premarital counseling courses for engaged couples are outlined. These courses appear to be similar to prenatal courses for mothers and couples with a slightly different emphasis. The authors are also concerned with medical education in the realm of marital counseling. One author indicates that psychiatrists, obstetricians and gynecologists are the only medical specialists with any degree of competence in handling sexual and marital problems. This same author indicates that a doctor should have a happy marriage in order to counsel married couples. Several of the universities make marriage counseling help readily available to medical students, house officers, wives and fiancés.

Many questions concerning marriage counseling are left unanswered for this reviewer. The value of a marriage counselor versus psychiatrist or personal

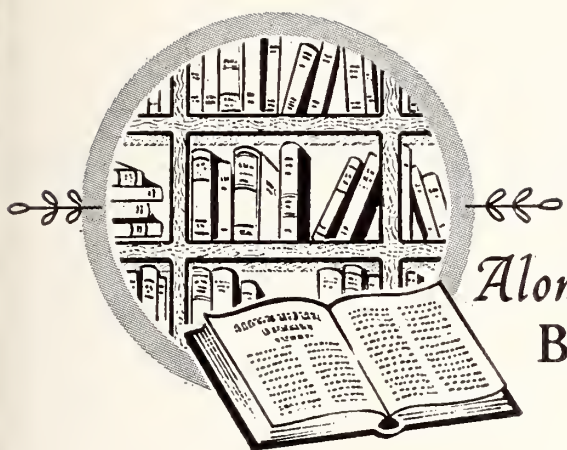
physician is not resolved here. The examples designed to verify the value of a marriage counselor left this reader unconvinced.

For those interested in learning more of marriage counseling this reference may be worth reading. All authors except the pediatrician list an extensive bibliography which is of value in pursuing the problem. It is important that the physician examine his or her own attitude toward marriage and sex before advising others in the far reaching realm of human behavior. —L.P.

THE LUNG AND ITS DISORDERS IN THE NEWBORN INFANT: volume I in the series Major Problems in Clinical Pediatrics, by Mary Ellen Avery, A.B., M.D.; Alexander J. Schaffer, Consulting Editor. W. B. Saunders Company, Philadelphia, 1964. 224 pages, illustrated. \$7.50.

This remarkable volume is the first of a series of monographs to be published by the W. B. Saunders Company dealing with major problems in clinical pediatrics. Disturbances of pulmonary function are the most common causes of mortality and morbidity in the newborn period. A fundamental understanding of the embryology and physiology of the lung as well as its adaptive changes in the neonatal period is vital information for physicians responsible for the care of babies in this age group. Dr. Avery lucidly describes anatomic and physiologic aspects of the fetal and neonatal pulmonary system. Each subject is discussed in some detail, yet practical clinical application is stressed. Factors regulating fetal circulation and their relationship to the physical and functional properties of the lung are detailed. Methodology in the measurement of pulmonary function in infants is presented and includes a discussion of blood gases in normal and abnormal states, evaluation of shunts, definitions of dead-air space and alveolar ventilation, measurements of lung volumes, flow rates, compliance, airway resistance and pulmonary diffusion. Practical suggestions are given in the management of

(Continued on page 264)



Along The BOOKSHELF

Clendening Medical Library

Recent Acquisitions

American Medical Association. Commission on the Cost of Medical Care. Report. 1963-64. 4v.

American Public Health Association. Diagnostic procedures for viral and rickettsial diseases. 3d ed. 1964.

Barlow, R. B. Introduction to chemical pharmacology. 2d ed. Wiley, 1964.

Beard, Gertrude and Wood, E. C. Massage: Principles and techniques. Saunders, 1964.

Biggam, Sir Alexander and Wright, F. J. Tropical diseases. Williams & Wilkins, 1964.

Ciba Foundation Symposium on Control of Glycogen Metabolism, London, 1963. Proceedings. Little, Brown, 1964.

Cleckley, H. M. The mask of sanity, an attempt to clarify some issues about the so-called psychopathic personality. 4th ed. Mosby, 1964.

Courville, C. B. Forensic neuropathology; lesions of the brain and spinal cord of medico-legal importance. Callaghan, 1964.

Cruikshank, Bruce, Dodds, T. C., and Gardner, D. L. Human histology. Williams & Wilkins, 1964.

Dalton, Katharina. The premenstrual syndrome. Thomas, 1964.

Darrow, D. C. A guide to learning fluid therapy. Thomas, 1964.

Fischer, A. E. and Horstmann, D. L. A handbook for the young diabetic. 3d rev. ed. Intercontinental, 1964.

Fontana, V. J. The maltreated child. Thomas, 1964.

Hanlon, J. J. Principles of public health administration. 4th ed. Mosby, 1964.

Harper, R. J. C., ed. The cognitive processes: readings. Prentice-Hall, 1964.

Harris, R. J. C., ed. Techniques in experimental virology. Academic, 1964.

Holt, K. S., and Milner, J., eds. Neurometabolic disorders in childhood; proceedings of a symposium. Livingstone, 1964.

Kandel, D. B. and Williams, R. H. Psychiatric rehabilitation; some problems of research. Atherton, 1964.

Kovács, Ernest. The biochemistry of poliomyelitis viruses; a synopsis of poliomyelitis infection and research. Pergamon, 1964.

Lawrence, J. H., Manowitz, Bernard, and Loeb, B. S. Radioisotopes and radiation; recent advances in medicine, agriculture, and industry. McGraw-Hill, 1964.

Levinson, Harry. Emotional health in the world of work. Harper, 1964.

Lucas, R. B. Pathology of tumours of the oral tissues. Little, Brown, 1964.

Marples, M. J. The ecology of the human skin. Thomas, 1965.

Martin, J. G. The tolerant personality. Wayne State University, 1964.

Marx, M. H., ed. Theories in contemporary psychology. Macmillan, 1963.

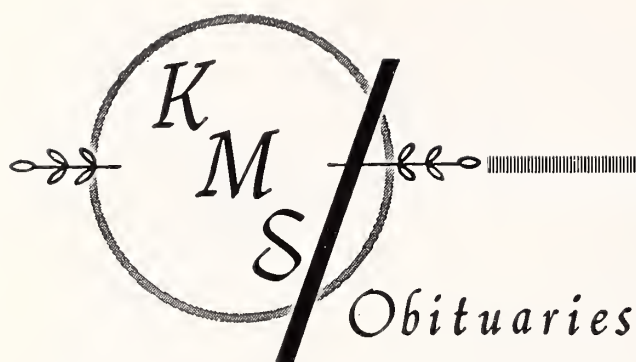
Mead, Margaret. Food habits research; problems of the 1960's. National Academy of Sciences-National Research Council, 1964.

Müller, Carsten. Cardiopulmonary hemodynamics in health and disease. Thomas, 1965.

Neugarten, B. L. and others. Personality in middle and late life; empirical studies. Atherton, 1964.

Parsons, Talcott. Social structure and personality. Free Press, 1964.

(Continued on page 264)



KENNETH J. GLEASON, M.D.

Dr. Kenneth J. Gleason, 62, died at his home in Independence on March 22, 1965.

Dr. Gleason was born in Topeka on August 22, 1902. He was graduated from the University of Kansas School of Medicine in 1937. During World War II he served with the U. S. Medical Corps and spent two years in the European Theatre of Operations. He began his medical practice in Independence in 1946, specializing in diseases of the eye, ear, nose and throat.

Survivors include his wife, a daughter and a son.

CLIFFORD L. VAN PELT, M.D.

Dr. Clifford L. Van Pelt died at his home in Paola on March 8, 1965. He was 79 years old.

Born November 22, 1885, in Paola, Dr. Van Pelt was graduated from the University Medical College of Kansas City in 1910. He returned to Paola to establish his office and practiced there until his retirement in 1962. He was a practicing physician in Paola for 52 years.

Dr. Van Pelt is survived by his wife and a daughter.

KANSAS STATE DEPARTMENT OF HEALTH

TOPEKA, KANSAS

Division of Preventable Diseases—Division of Vital Statistics—Kansas Morbidity Incidence
Summary of Cases Reported in January, 1965 and 1964

<i>Diseases</i>	<i>1965 January</i>	<i>1964 January</i>	<i>January, 5-Year Median, 1961-1965</i>
Amebiasis	—	1	1
Aseptic meningitis	2	1	1
Brucellosis	—	—	—
Diphtheria	—	2	—
Encephalitis, infectious	3	2	2
Gonorrhea	256	277	256
Hepatitis, infectious	55	66	66
Meningococcal meningitis	2	1	2
Pertussis	4	2	4
Poliomyelitis	—	—	—
Rheumatic fever	—	1	—
Salmonellosis	24	10	10
Scarlet fever	17	15	44
Shigellosis	5	38	9
Streptococcal throat	381	173	180
Syphilis	73	85	85
Tinea capitis	7	7	11
Tuberculosis	22	20	22
Tularemia	1	—	1
Typhoid fever	—	—	—

RABIES-IN-ANIMALS—1965

Laboratory confirmed cases of rabies continue to increase in Kansas. Over 110 specimens from 12 different species of animals have been examined to date in 1965. Sixteen of these have been positive: skunk (10), cat (3), bovine (1), coyote (1) and guinea pig (1). Animal inoculation studies for February have not been completed. Twelve counties have been involved: Butler, Harvey, Lyon (2), Miami, Montgomery (2), Morton, Nemaha, Pratt, Sedgwick, Shawnee (2), Stevens (2), and Thomas. Human exposure has occurred in four of the confirmed cases.

Of particular interest is the occurrence of laboratory confirmed cases of rabies in areas where the disease has not been observed for several years. Miami County had its first confirmed case since 1932, Nemaha County had its first confirmed case since 1943, Lyon County had its first confirmed cases (2) since 1946, and Shawnee County had its first confirmed cases (2) since 1959.

IMMUNIZATIONS ARE FOR CHILDREN!

Recent national surveys indicate that nearly 14,000,000 persons in the United States, many of them

adults, are susceptible to certain preventable diseases. Among these diseases are smallpox, diphtheria, tetanus, polio, measles, and whooping cough.

Vaccines of proven efficacy could greatly reduce the large amount of present susceptibility. There are, however, three main fallacies which persist in hindering the degree of participation in immunization programs, and therefore their ultimate effectiveness. These misconceptions are: (1) that immunizations are for children only; (2) that immunization of children is not necessary until school age is attained; and (3) that persons (adults or children) once immunized remain immunized indefinitely. In reality, immunization should begin as early as four to six weeks of age, and should be continued throughout life by a program of booster shots and re-vaccinations.

For various reasons, the dangers of these diseases are often underestimated. The decline in morbidity of polio, diphtheria, smallpox, and tetanus creates the false public impression that these diseases are no longer of major consideration; and the opinion that measles and whooping cough are "innocent childhood diseases" unfortunately persists. Nevertheless, mortality rates for these diseases, for which there is

no specific treatment, remain about the same as ever. In 1962, for example, 17,749 cases of whooping cough were reported in the United States, with 83 resulting in death. Tetanus has retained a national case fatality rate of about 50 per cent, and in Kansas the case fatality rate over the past ten years has averaged 67 per cent.

Officials estimate that 70 per cent of those vaccinated against smallpox have lost effective immunity, and that if present polio immunization rates are not increased, in five years 10,000,000 children will be inadequately protected.

The occurrence of these diseases is not limited to children. Last year, for example, 23 per cent of the diphtheria cases in this country occurred in people who were beyond school age. A recent survey by the American College of Surgeons showed that 28 per cent of the adult men and 46 per cent of the adult women in this country who sought treatment for injuries were in need of either primary or booster immunization against tetanus.

The Immunization Section of the Division of Disease Prevention and Control is encouraging Kansas communities to organize intensive tetanus immunization programs during April 1965. A state-wide educational campaign, with the slogan "Boot Tetanus Out of Kansas" is being organized. Educational materials, vaccines, and promotional assistance are being made available to all counties whose health officials deem a community immunization program presently advisable.—Michael Blakeman, Health Educator, Division of Disease Prevention and Control.

Announcements

(Continued from page 259)

of Physicians, 4200 Pine Street, Philadelphia 19104.
Tuition Fees: Members, \$60; Nonmembers, \$100.

University of Colorado:

June 14-16 *Religion and Medicine Conference*, Estes Park.

July 5-8 *Ophthalmology*, Estes Park.
July 18-24 *11th Annual General Practice Review* (Repetition of January Course).

For further information write Office of Postgraduate Medical Education, University of Colorado School of Medicine, 4200 E. 9th Ave., Denver 80220.

May 24-25 *Pediatric Aspects of Surgery in Childhood*, Dept. of Pediatrics, Univ. of Cincinnati College of Medicine. Address inquiries to Dr. Wm. Schubert, The Children's Hospital, Cincinnati.

Book Reviews

(Continued from page 260)

hyaline membrane disease and resuscitation of the asphyxiated newborn.

More than 500 references are included and are extensive, critical and up to date for the interested reader who desires to further broaden his knowledge about a particular subject. This book can be highly recommended to respiratory physiologists, anesthesiologists and those carrying on teaching and research activities related to the newborn. This monograph is "a must" for all physicians who are in any way participating in the care of the newborn!—A.M.D.

Bookshelf

(Continued from page 261)

Reiffenstuhl, Günther. The lymphatics of the female genital organs. Lippincott, 1964.

Saunders, B. C., Holmes-Siedle, A. G., and Stark, B. P. Peroxidase; the properties and uses of a versatile enzyme and of some related catalysts. Butterworths, 1964.

Schwartz, M. S. and others. Social approaches to mental patient care. Columbia University, 1964.

Seitz, Rudolf. The retinal vessels. Mosby, 1964.

Starzl, T. E. Experiences in renal transplantation. Saunders, 1964.

Steiger, W. A. and Hansen, A. V., Jr. Patients who trouble you. Little, Brown, 1964.

Templeton, F. E. X-ray examination of the stomach. Rev. ed. University of Chicago, 1964.

Vedder, C. B. and Lefkowitz, A. S., comps. Problems of the aged. Thomas, 1965.

World Health Organization. The medical research programme of the World Health Organization: 1958-1963. 1964.

May God deliver us from the lies of honest men.—
Proverb, author unknown

NEW MEMBERS

The JOURNAL takes this opportunity to welcome these new members into the Kansas Medical Society.

William S. Chambless,
M.D.
3244 East Douglas
Wichita, Kansas 67208

Myron R. Hausheer,
M.D.
210½ Center Avenue
Oakley, Kansas 67748

Stanley L. Y. Chow, M.D.
826 South Horton
Ft. Scott, Kansas 66701

S. O. Kim, M.D.
State Sanatorium
Norton, Kansas 67654

After a Coronary:

Some Habits May Need to be Changed But Most Can Still Enjoy the 'Good Life'

The recovered heart attack patient is no longer the invalid of yesteryear, yesteryear being no more than 20 years ago. Doctors try to get him back into the swing of things as soon as possible.

His day-to-day habits may need some changes, but the changes won't deprive him of the joys of living. He can still eat well, though in moderation. He's even encouraged to do a little bit of drinking, wine at meals, that is. He can be physically active and in most cases he can return to work.

These conclusions emerge from a review for physicians on current treatment of recovered heart attack patients. It is published in "Modern Concepts of Cardiovascular Disease," a monthly professional bulletin of the American Heart Association, available from the local Heart Association office. Co-authors are Drs. Clarence E. de la Chapelle and Charles A. R. Connor of New York University School of Medicine in New York City. (In the January issue of the JOURNAL their recommendations on work and exercise were reported. This installment reviews their advice on some other problems, such as:)

Diet. The cardinal advice given is: Don't overeat. And don't exercise or be physically active immediately after eating. It can stand repeating: a midday siesta of at least a half hour should become a lifelong habit. The authors commend the custom among Europeans of sitting at the dining table for considerable periods after a meal. The overweight or obese, of course, must make every effort to reduce. This is best accomplished by reducing total food intake with particular restriction of fats and carbohydrates (under a physician's care). In persons who have had a heart attack, the authors say, "no efforts should be spared" in reducing abnormally high blood levels of cholesterol as a possible preventive measure against repeat attacks. They concede that it has not yet been proved that lowering cholesterol levels will change the course of the underlying arterial disease that led to the first heart attack. Still, they urge that patients "be given the benefit of any doubts" regarding various measures available to bring blood fats down. For example, a cholesterol-reducing regimen should ensure that at least half of the fats eaten are of the polyunsaturated type. The American Heart Association also recommends cutting total fat intake to about 35 per cent of the overall diet. Ordinarily Americans consume about 45 per cent fat in their regular diets.)

Smoking. The word here is: Give up cigarettes. Studies have shown that death rates from heart attacks in middle-aged men are 50 to 200 per cent higher among cigarette smokers than in nonsmokers, pipe or

cigar smokers. They are more apt to cough and experience shortness of breath, decreased appetite and increased nervous tension.

Alcohol. A great deal of caution is urged upon the physician in recommending the amount of strong spirits, brandy, gin and whisky, a coronary patient may have. A recent study in dogs indicated that doses equivalent to those "within legal limits for driving" in humans had an adverse effect on the heart. Drs. de la Chapelle and Connor say, however, that wine seems beneficial, particularly when taken during meals. It not only aids digestion and acts as a sedative, but also helps to counter depression and apprehension. The authors suggest that the custom of the French and Italian men to drink wine with meals and follow a long lunch with a siesta may partially explain their low incidence of heart attacks as compared with American men.

Sex. It is generally recognized, the authors say, that sexual intercourse produces considerable stress on the circulatory system. They recommend abstinence for at least a month or two after a satisfactory recovery from a heart attack.

Travel. A two or three months wait before flying, even in pressurized cabins, is recommended. A longer waiting period is suggested before travel to high altitudes.

Vacations. Vacations of five days to a week should be taken every few months during the first year or two after recovery. There should also be a main vacation for at least three weeks every year, and preferably in one place where the patient can relax and get plenty of sleep. People living in climates where winter is severe would be well-advised to take the longer vacation during the winter months, the authors say. Indeed, extremes of climates should be avoided as far as possible, according to Drs. de la Chapelle and Connor. Extremely hot and humid weather or severe cold place great burdens on the heart. It is well recognized that more heart attacks occur during spells of abnormally low or high temperatures. In this connection, "the value of air conditioning can never be over-emphasized in the routine management of cardiac patients during exposure to a hot and humid climate," the authors say.

Hobbies can make the good life better. Any will do so long as they bring relaxation and do not require strenuous physical efforts. Most conducive to reducing tension seem to be hobbies requiring the use of the hands—for example, crafts, painting, modeling, wood-working, stamp or coin collecting. Outdoor lovers may find gardening, birdwatching or photography compelling. Interest in a hobby should be sustained. The gratification it brings may make one look forward to a retirement he might otherwise dread.—*From The Kaw Valley Heart Association*

The Kansas Medical Society—1964-1965

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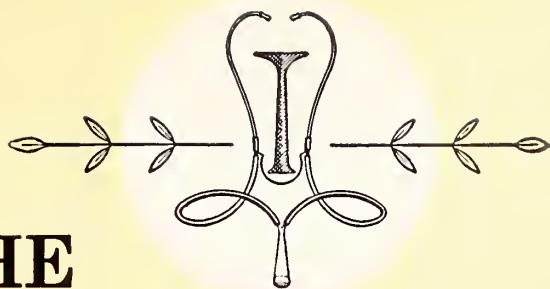
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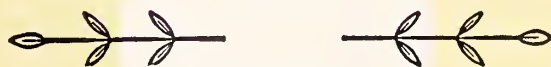
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(1) Frykman, H.M.: *Minn. Med.*, Vol. 38, Jan. 1955. (2) Poth, E.J.: *The J.A.M.A.*, Vol. 163, No. 15, April 13, 1957. (3) McGivney, J.: *Texas State Jour. of Med.*, Vol. 51, No. 1, Jan. 1955. (4) Stern, F. H.: *Jour. of The Amer. Ger. Soc.*, Vol. 11, No. 3, Mar. 1963. (5) Weekes, D. J.: *N.Y. State Jour. of Med.*, Vol. 58, No. 16, Aug. 1958. (6) Abbott, P.L.: *Jour. of Oral Surg., Anes. & Hosp. Dental Serv.*, Vol. 19, July 1961. (7) Weekes, D. J.: *E.E.N.T. Digest*, Vol. 25, No. 12, Dec. 1963.

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The JOURNAL of the KANSAS MEDICAL SOCIETY

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GERIATRICS

ISSUE

This special issue was prepared under the direction of the Committee on Aging of the Kansas Medical Society.

The Editorial Board would like to thank Dr. D. V. Preheim, committee chairman; Dr. Anita M. Isaac, who solicited the papers, and the members of the committee for making this issue possible.



The Management of . . .

Urinary Problems in the Aged

CHARLES A. ISAAC, M.D.,* *Newton*

THE GERIATRIC POPULATION is growing by leaps and bounds along with the increased population and we see increasing numbers of urinary problems in this group, especially in the men. If your community is anything like ours, private as well as nursing homes have many more problems pertaining to urinary function, such as increased urinary frequency, wet beds, catheters, and the like, than ever before. The analysis and solution to many of these problems require careful evaluation of all factors involved and it is many times made more difficult by the patient's inability to give a very clear history. This then, should be garnered from friends, relatives and people who are directly taking care of the individual. Along with this, a careful examination of the patient will begin to give us a good idea as to the problem involved.

A good solution to the individual problem will then produce a number of things, including comfort for the patient, the continued social activity of the individual, and improved self care as well as ease of nursing care, if such is the case. Many times an incalculable number of hours of time may be saved in caring for the patient. These, I feel, are all worthy objectives and tend to make the daily life of the individual and his doctor much easier. The other important consideration that I have failed to mention is, of course, the economic one. In this geriatric group

Careful medical management, which includes good use of the anticholinergic and antibacterial drugs, may be very helpful and may produce a very grateful patient when no obstruction exists.

When obstruction exists and the patient either can't void, voids too frequently, or has an overflow type of incontinence, correction may be undertaken even under what may seem to be dire circumstances and may bring about an extremely good self care or nursing care situation. The main problem is still to decide by careful history and physical examination and by investigative means whether true obstruction actually exists or not.

Catheters are usually to be condemned as a permanent solution to one of the above problems.

of patients this can be so very helpful for both the individual and, in many instances the county or state or federal government or whoever is footing the bill. Now, because of the foregoing, I want to set down a few basic principles in management of these urinary

*Urologist, Axtell Clinic, Newton.

problems of the aged, and present a few concrete patient examples of what I am trying to get across.

We are dealing here primarily with two basic categories of difficulty that cause these urinary problems, one being obstruction of urinary flow and the other being associated with the lack of obstruction of urinary flow. Either of these two categories might well produce bladder dysfunction such as increased frequency of urination or dysuria, or they might produce symptoms of urinary incontinence without a true loss of actual sphincter activity. One might speak of this as a "false" incontinence, in contradistinction to "true" incontinence which would be due to direct injury to the sphincter, either by surgery or trauma. True incontinence, fortunately, is relatively rare and has to be coped with by using some type of appliance that will continuously collect urine or check its flow. This might mean a catheter in the bladder or a collecting device on the outside of the body attached to a leg urinal. In some instances a penis clamp can be used to check the urine flow. As you can see, these devices are fraught with many problems, so that, if we are dealing with a "false" incontinence or anything but a "true" incontinence, there should be some help available through good medical or surgical management.

Non-Obstruction

In the non-obstructive category we have several types of situations that produce difficulty. We have on the one hand the uninhibited type of neurogenic bladder which produces a tremendously increased frequency of urination. This is the type of bladder we see in a baby and is caused by lack of cerebral control of individual bladder reflex contraction. There is no residual urine, of course, and in the aged this type of situation can many times be brought about by cerebral deterioration—most commonly the person with a stroke. This type of problem can many times be helped with anticholinergic or parasympatholytic drugs, examples would be the belladonna derivatives, and of the latter, methantheline bromide or propantheline bromide. Here we have an older person reverting to a childhood state.

Other types of difficulty in this same category would be the bladder impaired by nerve dysfunction such as in the paraplegic, the tabetic, or the person with diabetes or pernicious anemia. More common, however, is the simple decompensated musculature of the bladder, particularly seen in older women. This is simply a loss of muscle tone and can be treated fairly effectively by short periods of catheter drainage followed by short periods of using a drug such as bethanechol chloride, in a dose of ten mg., q.i.d. The most common cause of increased urinary frequency

without obstruction is, of course, infection. I want to describe in detail two patients who were helped, both in their own way, by control of infection.

CASE 1: This is an 89-year-old white, male, retired farmer who is remarkably active for his age. On this occasion the patient came in complaining of difficulty in controlling his urine but with no particular nocturia although on occasion he would get up two to four times at night to urinate. After careful questioning he did have a history of intermittent mild dysuria over the last year.

His past history included a transurethral prostatectomy in 1947 which was done elsewhere, and later a suprapubic prostatectomy by myself in 1958—this performed for urinary hemorrhage. A carcinoma was removed from his nose six months previously and he did note that his urinary control was better for a number of weeks afterwards. He said that he had received some antibiotics during that hospitalization.

Physical examination revealed an active, healthy appearing, white male of 89 years. Blood pressure was 140/75; pulse 80—regular. There was a well healed scar on the right side of the nose. Heart tones were quite normal and the lungs were clear. A suprapubic transverse scar was present. Genitalia were essentially normal. Rectal examination revealed some humping of the prostatic capsule, but nothing that wouldn't be consistent with a postoperative situation. Urinalysis; Specific gravity—1.017, albumin—trace, sugar—negative, 250-300 wbc's per high powered field and occasional bacteria.

Knowing that the patient in all likelihood had a normal urinary outlet because of previously caring for him, he was placed on nitrofurantoin, 50 mg., q.i.d. for six days. In another ten days he was given another course of therapy. He noted immediately great improvement, and full urinary control resumed. He was seen five months later and these results were sustained.

CASE 2: This is an 85-year-old white, married male, a retired minister and missionary who has the following history: In 1957, he had a transurethral prostatectomy for a benign prostatic hypertrophy. In August, 1963, the patient then suffered a cerebral thrombosis which resulted in hemiparesis of the left side of the body. The patient was a tremendous rehabilitation problem but gradually made some headway on this score and now walks with the aid of a tripod cane. Approximately three months before, a catheter was placed indwelling in the bladder because of the constant feeling of urgency and the need to void. His wife, who is a physician, had to hand him the urinal as many as 15 to 20 times per night. If this was not done, he was wet and it was very distressing to both

of them. Attempts to use various types of contraptions and penile sheaths apparently were not satisfactory, so the indwelling catheter was continued.

The patient was then seen in consultation after he had been hospitalized for severe bladder pain and sensitivity. If the catheter was so much as even touched, leakage would occur around the catheter—this in spite of sulfa, azo dyes, and other bladder sedatives.

The physical examination revealed an 85-year-old white male who was oriented, cooperative, friendly but whose hearing was relatively poor. His blood pressure was 170/100. Pulse was 76 and regular. Pupils reacted to light and accommodation. Extraocular movements were normal. There was no suggestion of jaundice. There were bilateral cataracts. His mouth was edentulous. The neck revealed no cervical lymphadenopathy. Lungs were clear. Heart tones were good. There was a grade two systolic murmur, loudest at the base and to the left of the sternal border. The abdomen was soft, there were no palpable masses. Rectal exam revealed a smooth symmetrical postoperative prostatic capsule. Extremities revealed a left hemiparesis. Dorsalis pedis pulses were not palpable.

Cystoscopy, or rather panendoscopy, was then carried out. It was found that the bladder was trabeculated. There were three distinct shell-like calculi in the bladder from the indwelling catheter. The bladder seemed to fill fairly normally. Several days later, the calculi were crushed and removed transurethrally and after several days of catheter drainage, the catheter was removed. By the use of methantheline bromide, 25 mg., four times daily and the continued use of nitrofurantoin, 50 mg., t.i.d., infection has been kept at a minimum and his voiding pattern is again more normal. He now gets up four or five times at night to pass his urine and goes to the bathroom with his wife's help. Both the patient and his wife are overjoyed at having a pain free situation, no catheter to contend with and a reasonably normal voiding pattern.

Obstruction

The second category that we deal with is that of obstruction. This might include urethral stricture, benign prostatic hypertrophy, or vesical neck contraction, the latter being a hypertrophy of the vesical neck or bladder outlet musculature. I want to describe here two rather desperate situations related to this obstruction factor.

CASE 1: This was a 77-year-old white, widowed male, living alone in his own home. In June 1962, he fell from a ladder and fractured his left shoulder and a number of ribs. Catheter drainage at that time was

instituted because the patient was unable to void. It was doubtful at first whether the patient would live, but he did, although he was quite confused. A number of attempts to remove his catheter failed. His local physician then transferred him here so that we could work on his urinary problem.

At this time physical examination revealed a 77-year-old white male who appeared to be in fair health. However, he was quite confused, was somewhat short of breath and was wearing "boxing gloves" on both hands to prevent his pulling his catheter out and otherwise harming himself and those taking care of him. His blood pressure was 120/70. Pulse was 80 and regular. Eyes reacted to light and accommodation. Extraocular movements were normal. Throat was clear. He had his own teeth and they were in fair repair. There was no cervical lymphadenopathy. Breath sounds were absent over the right lung field and there was dullness to percussion over this lung field with loss of vocal fremitus. The left lung field was clear. Heart tones were of good quality; there were no murmurs. The abdomen was soft. An indwelling catheter was present. A rectal examination revealed approximately a 20 gram benign smooth prostatic hypertrophy.

His course in the hospital was as follows: An x-ray of the chest revealed what appeared to be a pleural effusion on the right. The day after admission a thoracentesis was performed and the following day a recheck x-ray showed a good clearing of the right lung field. The "boxing gloves" were removed upon admission and following thoracentesis, the patient was ambulated. Improved breathing and ambulation produced a more cooperative patient and the fifth day following admission, a transurethral prostatectomy of a small, highly obstructing prostate was performed through a perineal urethrotomy. The urethrotomy was performed because of the relatively small penile urethra (this is performed to prevent stricture formation). The patient tolerated this procedure quite well and three days later the catheter was removed. The patient immediately became much stronger, more active, started to eat well, and mentally cleared as if by magic. On the twelfth postoperative day, this patient returned to his own hospital in a neighboring community and within a number of weeks was living by himself again.

CASE 2: This is an 83-year-old white, widowed male, retired sheet metal worker who was first seen in June of 1962 with the complaint of intermittent pain in his right side and marked increased frequency of urination. Eight years before he had had a suprapubic operation for vesical calculi and apparently difficulty was experienced in doing an enucleation of

the prostate by this suprapubic route. At least the patient and son stated that he was unable to void normally even after his surgery. It was known that he had a staghorn calculus in the right kidney. His other past history included the history of having had gout, for which he was on medication.

The physical examination revealed a well developed, well nourished white male of 83 years who appeared to be in fair health, but who was a rather cantankerous old man. Blood pressure was 120/75. Pulse was 80 and regular. He wore an upper denture and had an edentulous lower jaw. Lungs were clear. Heart tones were of good quality. Abdomen was soft and there was a superapubic midline scar from his previous surgery. Rectal examination revealed a grade one benign prostatic hypertrophy.

Laboratory studies revealed: Urinalysis: Specific gravity—1.010, albumin—2 plus, microscopic loaded with wbc's, hemoglobin was 55 per cent or 8.5 grams with hematocrit of 33 and a white count of 23,000; with a differential of 76 segs, 24 lymphs. Uric acid was 8.2 mg. per cent, his B.U.N. was 28 mg. per cent and creatinine 1.85 mgs. per cent. Blood sugar and blood coagulability studies were considered to be normal. His serology was negative. A K.U.B. film revealed five vesical calculi and the right staghorn stone.

This was a welfare client from a neighboring county. Since it was the decision of the case worker and the family, the patient was sent to the University of Kansas Medical Center. The patient was totally uncooperative in this institution and would allow nothing to be done to him and he was finally sent home after six days.

Several weeks later it became rather imperative to insert an indwelling catheter as the patient was going to the bathroom every five minutes, wasn't getting any rest, and was a hopeless nursing problem. This he finally consented to, although he had not at the Medical Center. This was done in the nursing home and the catheter left indwelling. Two weeks later we were able to bring him into the hospital and a cystogram revealed the vesical calculi and also multiple diverticula of the bladder. The next day, a cystolithotomy was performed. There were multiple diverticula of the bladder and since it was felt that drainage would be totally inadequate otherwise, a number of these diverticula were removed. It was surprising how well the patient withstood the surgery. This was done under general anesthesia. Two units of blood were given to the patient because his blood count was quite low to begin with. Five days later, a transurethral prostatectomy was performed. Thirty grams of residual prostatic tissue were resected. There was no blood replacement. The suprapubic tube was re-

moved. Ten days later he left the hospital voiding in fairly large amounts at regular intervals. The patient then became responsive to nursing care, was up on his feet, walked to the table for meals, improved a great deal mentally and finally, but not least, reassumed a cheerful disposition.

Decision

Now we have seen examples of both types of problems, on the one hand the one with no urinary obstruction, and on the other, true urinary obstruction. The crux of the problem, then, is to be able to decide whether obstruction exists or not. If we can decide this, then we can make plans accordingly.

First, let us examine some of the other causes of poor urinary flow which may simulate obstruction. This may be due to a particular circumstance in which

GENERIC AND TRADE NAMES OF DRUGS

<i>Methantheline bromide</i>	<i>Banthine</i> ®
<i>Propantheline bromide</i>	<i>Pro-Banthine</i> ®
<i>Bethanechol chloride</i>	<i>Urecholine</i> ®
<i>Nitrofurantoin</i>	<i>Furadantin</i> ®

the patient finds himself or it may be due to some things that his physician is doing to him. One iatrogenic cause of poor urinary flow might be bed rest. The patient is put to bed by his physician and not allowed to stand or sit up. It might be that he will have difficulty in voiding, whether he has a normal outlet or not. One has to think of medication that the patient may be on; some tranquilizing drugs have a tendency to cause diminution of bladder tone. Of course, any of the ulcer medications which are anticholinergic might produce urinary obstruction at any given time.

Then one must consider other illnesses which may have made the patient weak, or an accident which has produced sudden decompensation of the bladder. A direct injury to the area of the bladder, but more particularly an injury anywhere in the area, may produce enough pain so that the pain in itself makes it difficult for the normal relaxation of the urinary sphincter to take place. Operative procedures such as hemorrhoidectomy or herniorrhaphy or any type of pelvic surgery, suprapubically or perineally, could be causing this type of inability to void. Any form of anesthesia may produce difficulty in voiding but particularly spinal anesthesia which is in effect temporarily producing an autonomous bladder.

These causes, along with some of the reasons for poor bladder tone, as mentioned earlier in this paper must then be weighed against the possibility of having a real obstruction due to benign prostatic hyper-

trophy, vesical neck contracture (muscular contracture at the neck of the bladder), urethral stricture, or, as might be strictly seen in a woman, a cystocele causing a mechanical failure of the bladder to empty. The position of the bladder is the culprit here. What are the tools that we use to make a decision as how to proceed? Close questioning as to actual freedom of voiding or direct observation can be very important—this, of course, in direct combination with a good history and a good physical examination. Urinalysis then would be important. One can tell whether infection is present. A concentrated urine as noted by the specific gravity, might well make one feel a little better, than, say, a dilute urine which just might signify a little poorer urinary function.

With these things behind us, determination of residual urine might then be quite significant. Catheterization of females is not fraught with too much danger. However, I think it is somewhat dangerous as a routine practice in a male. Here, then, we have an x-ray study which can be most helpful in determining residual urine as well as the function of the rest of the urinary tract. Through intravenous pyelography, one can see whether lower urinary tract obstruction might be causing hydroureter or hydronephrosis. It is pretty well known, for instance, that if a lower urinary tract obstruction exists, or ureteral reflux is present that a borderline ureteropelvic obstruction which didn't show up before or wouldn't have shown up, now presents itself because of the added obstruction forced upon it by the lower urinary tract blockage. We can also get an idea of the configuration of the bladder—whether there are diverticula present, whether scalloping of the bladder edges are viewed which might indicate trabeculation, or whether there is increased hypertrophy of the bladder wall which might show up as a double contrast cystogram. If the patient has voided and a post-voiding film is obtained, one can determine the residual urine. The accuracy of this test is predicated on the fact

that the patient has cooperated to the fullest extent, and that he was actually emptying his bladder to the best of his ability.

If all of these steps have been taken and there is still some doubt as to existing obstruction, direct visualization with a foroblique panendoscope can then be done. A cystoscope will not be sufficient here, as we need the forward-looking instrument. Correlation then of this finding with other previous findings will bring us to a good decision.

With consideration of the above, good treatment can be carried out. Catheters are certainly to be condemned as a permanent solution to a urinary problem, if at all possible to do otherwise. All of us have seen the case where a catheter was inserted for nursing reasons and for a given hospitalization and then with removal of the patient to a nursing home the catheter has gone with the patient with no attempt at its removal. In our local town here, there are no males that I know of with any kind of a permanent catheter in place. This at one time was not true, but, gradually through education, in one way or another these catheters have been discontinued. If true obstruction existed, then surgical corrective measures were taken to solve the problem. It is the rare patient now who is not amendable to treatment through transurethral means if obstruction is due to hypertrophy of the prostate or vesical neck contracture.

If loss of bladder tone is the reason for a poor voiding pattern, catheter drainage for seven-day periods many times will improve this tone enough so the patient can again do without a catheter. Particularly in older women is this helpful. There might be an occasional case in a woman, particularly where total inanition is present, where a catheter could be used; but, even then many problems are involved such as frequent changes of catheters, plugging of catheters, leaking around catheters, and the myriad of problems that are associated with tubes. Again if you can get rid of them, you are better off.

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The Loss Reaction

Its Meaning and Application to Treatment Problems in the Older Patient

THOMAS F. MORROW, M.D., *Wichita*

WHEN THE PRACTICING PHYSICIAN is confronted by a confused and elderly patient he may very well feel discouragement at the prospects of successful treatment. He may not recognize that the confusion and helplessness is the patient's reaction to a loss and that such a reaction can be successfully treated.

The loss reaction is an individual's total reaction; involving the way he thinks, feels, and acts, to changes inside and outside himself. Whenever a shift takes place, inside or out, one loses one's balance. Usually this is quickly regained, many times without the person's being aware of his loss. The older one gets, it is more likely there will be shifts both within and without that are more difficult or even impossible to reverse. None the less, there will be an attempt to make up for the loss. The acuteness and severity of the loss and the person's ability to let himself and others in on its importance will determine the type of response, its severity, and who will deal with it initially.

The loss response invariably has a physical reaction affecting those organ systems mediated by the autonomic nervous system. These disturbances can be profound enough to cause serious and irreparable losses to the other systems, particularly the central nervous system and musculoskeletal system. Impaired functioning in these systems makes the process of regaining balance even more difficult, if not impossible. This fact adds to the importance of early treatment.

Treatment

Treatment begins with the recognition of a person's state, followed by an opportunity to study and understand. The study and understanding proceeds along the line of an inventory, taking note of various events inside and outside, and assessing the functioning of the various systems, physical and interpersonal.

In this manner what will come to light will be failing or absence of function (threatened loss or actual loss) in these areas.

The process of aging leads frequently to failing function in vital organ systems. Such failure, even though minimal, can produce an imbalance or loss reaction, particularly if other losses have, or are,

The reaction to loss and its connections with health problems in aging has been discussed. Treatment based on a recognition and understanding of the person's condition is emphasized. Comments on the role of the hospital, the use of specific medications, and follow-up care are presented.

taking place. The more important deficits *within* the person are:

(1) Impairment of the processes of circulation, detoxification, and nutrition, because of the importance of these to brain functioning.

(2) Disease processes impairing movement, either primarily those of arthritis, strokes; or secondarily through weakness or need for restricted activity.

(3) Loss of part of body, external or internal, through accident or disease process, especially those parts having much meaning to a person; sensory organs, digestive system (teeth being often the first loss), and genitourinary system.

(4) Loss of intellectual capacity, from mere reduced efficiency to gross impairments. Such loss again may be due to primary or secondary involvement. The primary disease processes of cerebrovascular changes or senile changes are grossly overrated. The systemic disturbances mentioned above are of much more importance, along with impairments that might be introduced from without, especially through drugs.

The external losses are those changes that take place in a person's life setting.

(1) The growing up, moving away or death of relatives and friends.

(2) The moving from one place to another, even though it may appear outwardly favorable.

(3) Changes in work, particularly retirement.

Once the assessment has been started it is usually possible to outline a specific program of treatment.

Hospitalization: First to be considered, if it has not already been provided, is a protected setting where the treatment program can be carried out. Hos-

pitalization is usually necessary and advisable, even though the hospital is another new setting and not always tolerant of persons lost in this manner. The advantages of a more stable and closely supervised setting and the availability of laboratory studies usually outweigh the disadvantages. An opportunity to more carefully assess external factors, such as relationships within the family, is also provided. Finally, the hospital provides a much better setting for the evaluation and regulation of treatment with drugs.

Drug Therapy: Drugs are widely used and have special values and hazards for persons experiencing threats to their equilibrium. For these reasons, some observations regarding indications and use of certain specified drugs are indicated.

Treatment of the various primary systemic disorders previously mentioned is not within the scope of this paper. Some of the drugs to be mentioned are used in treatment of systemic disorders, and any precautions mentioned apply whenever used.

The most frequent indications for drugs are:

- (1) Vegetative disturbances, such as sleeplessness, lack of appetite, stomach and bowel distress.
- (2) Varying degrees of restlessness and tension.
- (3) Depressed states.

For such conditions the following categories of drugs are used:

- (1) Sedatives and hypnotics.
- (2) Tranquillizers.
- (3) Antidepressants.
- (4) Vitamins and nutritional supplements.
- (5) Miscellaneous.

Sedatives and Hypnotics: As a group, these drugs are probably the most widely used and the *most hazardous*. Any borderline impairment of cerebral functioning can be accentuated, patterns of withdrawal and avoidance fostered, and impairment of controls and judgment increased.

These persons have a special intolerance to barbiturates, so much so that such drugs are to be avoided. So far, there appears to be no adequate substitute for chloralhydrate where a hypnotic is needed.

Tranquillizers: Tranquillizers are usually looked to for control of varying degrees of restlessness or agitation. They are also an aid in promoting rest and sleep. Except for one drug, chlorprothixene (Taractan®), only those in the phenothiazine group deserve consideration. Each physician will do best if he familiarizes himself with two or three drugs in this group; learning to know the idiosyncrasies, dosage range, side effects, and so on. For example, for certain types of restlessness, chlorpromazine (Thorazine®) is still unparalleled, however, if depression is present to any degree, chlorpromazine is to be avoided. In such

instances, trifluoperazine (Stelazine®) or chlorprothixene is to be preferred, but here too, use must be judicious.

Antidepressant drugs are extremely valuable in this group of reactions, even where confusion is present. The drugs of choice in the author's experience are amitriptyline HCl (Elavil®) or imipramine (Tofranil®). Those antidepressants in the MAO groups are no more effective than these two, and the risks in the use of the MAO inhibitors are much greater.

The use of various amphetamines is even more unnecessary and risky.

Vitamins and Nutritional Supplements are valuable adjuncts. The impairment of vegetative function,

GENERIC AND TRADE NAMES OF DRUGS

Chlorprothixene	<i>Taractan</i>
Chlorpromazine	<i>Thorazine</i>
Trifluoperazine	<i>Stelazine</i>
Amitriptyline	<i>Elavil</i>
Imipramine	<i>Tofranil</i>
Azacyclonol	<i>Frenquel</i>
Benztrapine mesylate	<i>Cogentin</i>

withdrawal, and loss of attention to daily activities results in a poor diet. Subclinical nutritional deficiencies are factors in impaired cerebral functioning. On the basis of experience alone, the author has found a preparation known as L-Glutavite® to be quite useful in these conditions.

Miscellaneous drugs include two specifics that are fairly frequently used. One is a specific for the extrapyramidal symptoms that can complicate the use of the phenothiazines. These symptoms at times are mistaken for increasing tension in the patient, and may lead to unnecessary changes in medication. Benztrapine mesylate (Cogentin®) is one such drug. Its regular use is indicated with trifluoperazine when the dosages of trifluoperazine exceed 6 to 8 mgm. a day.

The other specific is azacyclonol (Frenquel). In acute states of confusion such as a toxic delirium, reactions with auditory hallucinations, and even more chronic states of confusion, it is of value. When used in acute conditions the response can often be quite dramatic. The usual dosage for this purpose is 100 mgm., q.i.d.

Effective drug management depends on familiarity and careful regulation of the drug. Combinations of drugs are useful. Care is to be taken so as not to obscure the reaction of various drugs. So often, the early and immediate pressure for control will lead to use of excessive or unreasonable combination of drugs. Rapid or frequent shifts of drugs can also

produce disturbances in the patient's equilibrium.

Judicious use of drugs can spell the difference between early, satisfactory recovery and a chronic state of invalidism.

Management of External Losses: These losses can be much more of a problem. It is not possible to replace the loss of a spouse, sibling, or child. Shifts in work and living allow more room for compensation, but even here, replacement with the old job or home is seldom possible.

Of most importance, as far as the person's outside world is concerned, is his having a place that is relatively predictable and stable, where he will have an opportunity to regain his equilibrium. This does not mean a quiet, morgue-like setting. A certain level of stimulation is very important to maintaining one's orientation and preventing withdrawal.

Discussing the loss and its meanings with the per-

son will be beneficial. Just the process of relating events one to another and to the present state is important.

Not to be forgotten is the patient's family. The support of the family in most instances is essential to a successful outcome of treatment. The patient's state needs to be interpreted to them. The family, too, may need assistance in dealing with the loss, through disability, of a previously independent and dependable person.

Finally, a continuing relationship with the physician is essential; there should be office visits where possible, or visits to the home to supervise medication, review any current problems, and to support both the patient and those concerned with his care. It can be very easy to underestimate the importance of such visits. For such a person and his family though, the physician is a competent guide in a strange land.

CARDIOVASCULAR RESEARCH GRANT

A five-year grant totaling \$455,892 has been awarded the University of Kansas Medical Center to expand cardiovascular research training programs. Funds are from the National Heart Institute of the United States Public Health Service.

Dr. C. Arden Miller, director of the Medical Center and dean of the KU school of medicine, stated that funds for the first year total \$78,004 and are available July 1. Balance of the grant is available at \$94,472 for each of the following four years.

"These funds will enable us to expand, improve and coordinate the existing programs in heart disease research," Dean Miller said. "The award is multidisciplinary and will involve seven departments, both in basic and clinical science areas." Dr. Miller explained that during the past two decades the problems in cardiovascular research have become increasingly more complex and transcend artificially drawn departmental lines. Cooperation between clinical and basic sciences is often required in the solution of a problem and is essential for training individuals for careers in cardiovascular research and teaching.

Trainees in the program, both physicians and candidates for Ph.D. degrees, will have a wide choice of basic science training areas to supplement clinical training. Twenty-four faculty members from the departments of medicine, pediatrics, physiology, pathology, pharmacology, biochemistry and surgery will cooperate in the program. Most of the grant money will be used to pay stipends to trainees for a period of two years and to add necessary equipment and supplies for research laboratories. Fellowships will be offered to six trainees the first year, with nine anticipated in each of the following years. Some funds will be allocated for summer research fellowships to medical students to encourage them into research and teaching careers. No additional faculty is planned.

Russell C. Mills, Ph.D., associate dean in charge of graduate and research programs at the Medical Center, has been named director of the multidisciplinary grant. Marvin Dunn, M.D., head of the cardiovascular section, will be assistant program director and chairman of a faculty committee which will administer the training grant.

Old Dogs—New Tricks

Adjustment Problems in the Aged

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EMOTIONAL PROBLEMS of later years can usually be worked with and treated effectively. Frequently they manifest themselves in physical symptoms. Underlying causes can be identified when the physician recognizes emotional disturbance and proceeds accordingly. The following case is used to illustrate some of the frequent problems and ways of working with older persons.

Presenting Symptoms

Mrs. Y was a 65-year-old woman from a large mid-western city. She came for psychiatric consultation with the chief complaints of "can't sleep" and "physical exhaustion." The onset was gradual; over a period of six months she lost interest in social contacts and forfeited the domestic responsibilities which she had enjoyed in the past. She spent more and more time in bed but could not rest well day or night. Neither she nor her husband had any idea as to what the problem was. She knew that she could not go on in that fashion; she spoke of "ending it all" and of being "no good to anyone," although she did not seriously consider doing away with herself. She was admitted to a residential treatment setting and initially remained as she was at home: tense, restless, and not able to talk much with the doctor. She had many physical complaints. She was concerned excessively about bowel function, sleeplessness, and fatigue. She remained in bed and was not able to become involved in the prescribed activities.

The Family: Clues to the Dynamics of Trouble

During the first week, her husband lived with her in the residential unit. While she was not able to participate in activities, he was completely absorbed with the various projects. He interacted actively with younger patients, and seemed to enjoy competing with them. Observations by the nurses and adjunctive therapists helped to point out his protective attitude

toward her. He would not allow her to do the simplest things. He made suggestions and gave advice even when she wanted to handle the situation herself. He seemed to have a strong need to control all aspects of their life together, and to show that he could do everything better than she or anyone else.

In summary, physical and emotional symptoms often mask poignant or desperate reaching out for help. The physician working with the patient's family can add understanding to what appears to be physical illness. Early conflicts and personality traits, such as rigid standards or poor self-concept, which may not present a problem in productive years, may emerge in later years with disastrous results.

Regressive trends, increasing dependency needs and withdrawal are frequently used to cope with the problems of aging by the unfortunate victim. Therefore meaningful communication between elderly husband and wife is more essential than in the younger aged group who have more outlets and compensations to aid adjustment.

At the end of the first week, he left for home briefly, and was separated from his wife during the next two weeks. Upon his departure, the change in the patient's adjustment was dramatic. She was more comfortable, more alert, and more interested in her surroundings. She talked with her physician more spontaneously and gradually was able to share with him some of her preoccupations. She was concerned about her husband's recent retirement, and she was apprehensive about his plan to move West to a resort community. Gradually she became aware of her irritation with her husband; at the same time she restrained these feelings—not wanting to hurt him. She was strongly attached to her friends and her home, and did not want to relinquish her familiar surroundings. She

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spoke of her annoyance toward their only son who had moved away nine months before. She had objected to this move; as it took place, she felt she was no longer important to him. Her grandchildren, who were sources of gratification to her, were no longer available. It soon became clear that at the heart of her difficulties lay intense feelings about her family—particularly her husband. Obviously, also, the husband needed help to change.

Some Psychological Factors— Poor Self-Concept, High Expectations of Self

She felt guilty about not fulfilling her role as a wife, mother, and grandmother. She spoke critically of herself as one who was a burden to her husband. She had doubts about his interest in her as she grew older. She said that she wasn't worth much now that her memory was worse and now that she had slowed down physically. She made no effort to groom herself and she made derogatory remarks about her appearance: "old rags." She pointed out that she was always inadequate in comparison to her younger sister and to her husband, who seemed capable of doing everything better. Her tendency to be critical of herself and of her own efforts was a lifelong trait. One of the manifestations of her illness was the exaggeration of this tendency. But it served useful purposes: it called attention to her unhappiness and it provoked reassurance from those about her.

Retirement Disrupts Social, Household, and Marital Equilibrium

Since his retirement, they spent most of their time together. She felt obligated to entertain him, and gradually relinquished some of her social involvements in order to be with him. His retirement, to her, meant limiting her social life, more work, and disruption of her routine, especially when he invited people over without giving her advance notice. To some extent, he ordered her around as though she was the girl in his office. He "messed around" in the kitchen learning to cook and bake, and took over some of her responsibilities. She could not speak frankly to him about her unhappiness, and thought that it would not have done any good anyway. Obviously they had been unable to establish a mutually gratifying new equilibrium following his retirement.

The Value of Discussing the Present in the Light of the Past

It was a painful experience when years before she had to look after her elderly mother who wasted away with cancer. Guiltily, she resented this duty. She dreaded growing older, wondering who would

want to look after her during her terminal days. She leaned over backward to "take care" of her retired husband, fearful that if she did not do so he would not take care of her. At the same time, she resented his "demands." Discussions about such thoughts helped her to realize that some of her fears were not entirely rational, and her current situation did not have to parallel past experiences. As she became less fearful, she became less preoccupied with her physical and intellectual decline, and was less critical of herself. It was less difficult for her to express her feelings and to talk about them with her husband. Her symptoms gradually abated, and she took an active part in intramural, as well as community activities.

Meaningful Communication, an Essential Ingredient to Health

Following her husband's return to the treatment unit, they recognized that a healthy interchange was beginning to take place which had not existed previously, and that it was satisfying to be able to speak more openly and frankly with one another. The development of freer communication about things that mattered led to sustained improvement. The couple needed to be openly encouraged and supported in this effort. But several antecedents made it possible: trust in the doctor which developed through his demonstrated interest in her, his encouragement of her to talk openly with him, and, mainly by these means, the relief of the more acute symptoms which brought her into treatment. Drugs were used judiciously with the conviction that the best medicine for such patients does not usually come in bottles. In the meantime, the husband was helped to identify what had been helpful or noxious in his behavior and attitudes.

"Old Dogs Can Learn New Tricks"

A most interesting sidelight was her involvement with painting during treatment. She had never thought of trying anything artistic. Painting became gratifying and reassuring to her. She continues to study art, and takes pride in it. (Art, however, is a hackneyed example of new tricks learned late. Usually "new" skill is acquired when old interests are encouraged by those who themselves are skilled. The occupational therapist or craft expert, however, must be sensitive not only to potential interests, but also to the older person's capacities and his fear of failure or ridicule. Mastery of an unchallenging task may be boring, but failure at a too complex task is humiliating.)

Discussion

The "older patient" is one of many individuals with different problems. He is likely, however, to

be sensitive to interest or disinterest on the part of others, including the doctor. Central to the helping process is a desire to learn what is troubling the patient, but the patient will not reveal his secrets until he feels he can trust the doctor. The doctor is most helpful whose interest in the patient is expressed mainly through understanding, as opposed, for example, to over-readiness to prescribe drugs. Drugs may be required, but are so often a poor substitute for the psychological medicine which the patient needs. Frequently patients accept prescriptions with the unvoiced realization that drugs are second-best.

The case of Mrs. Y has been used to highlight some of the common problems of older people, and useful approaches to them. Diagnostic labels have been avoided because they are likely to inhibit rather than to promote understanding.

Mounting dependency is characteristic of old age. This is understandable in view of the fact that the older person is more vulnerable to illness or disability. His fear of such episodes may drive him to reach out to reassure himself that help is available. He may reach out in poignant ways or in unpleasant, demanding, provocative ways. In some instances he will not reach out at all: he will quietly starve before he will ask for help.

Most often, however, he or his family will consult the family doctor (Lowenthal: *Lives in Distress*). Often the doctor will be confronted by the older person whose reaching out has become desperate. The patient is most often depressed, apathetic, or irritably unpleasant. The family is likely to be grimly tolerant, openly rejecting, or overly solicitous. Under such circumstances, memory difficulties and undesirable lifelong personality traits are exaggerated. Short of these extremes, however, the older person reaches out by going to the doctor with, naturally, physical complaints suitably garnished so as to intrigue the physician's interest. Or the doctor becomes the object of unreasonable demands or unpleasant traits which he would do better to read as distress signals rather than as something to recoil from, over tranquilize, or damn as the product of "hardening of the arteries."

Involving the family is enormously important. Not only can family provide crucial information, but it is crucial, as with Mrs. Y's husband, to identify how they may upset or can restore family equilibrium.

Communication is likewise important—first with the doctor (or other professional, such as the social worker) and then with others. Important also is restoration of self-esteem and reduction of unreasonable self-imposed demands. Self-esteem returns as the doctor demonstrates proper concern, as unwelcome feelings are discussed more openly, and then as the

patient finds a balance in which he can care for his own needs and yet accept needed help.

It is important to him that if he is going to be a "burden," he bothers the right people. He can be a "burden" to the doctor because he can pay for it. Most of the "burden," however, is carried best and most willingly by peer groups. The establishment of community social and recreational centers for older people is necessary insofar as the needs met by these centers are not already met in other ways.

Summary

1. Symptoms, physical or emotional, often mask a poignant or desperate reaching out for help or "Search for Aid" (Goldfarb).

2. Working with the patient's family can add to the understanding of what appears to be physical illness.

3. Earlier conflicts and personality traits, such as rigid standards and critical attitude towards self and poor self-concept, which may not present a problem in productive years, can re-emerge in later years.

4. Regressive trends, increasing dependency needs, and withdrawal from life events are not infrequently used to cope with problems of aging.

5. Meaningful communication between elderly husbands and wives is more essential than in the younger age group who have more outlets and compensations to aid adjustment.

References

- Busse, E. W.: Treatment of the Non-hospitalized, Emotionally Disturbed, Elderly Person, *Geriatrics* 11:173, 1956.
- Butler, Robert N.: Psychiatric Evaluation of the Aged, *Geriatrics* 18:3, March, 1963.
- Chen, Ronald and O'Donoghue, Cathleen: Functional Medicine, *Journal of the Kansas Medical Society*, June, 1962, pp. 225-227.
- Goldfarb, A. I.: The Search for Aid: Schema for Understanding Aged and Disabled (unpublished) given to the Menninger School of Psychiatry, March 3, 1965.
- Hodgins, Edward: *Episode: Report on the Accident Inside My Skull*, 1964 Atheneum Publishers, New York.
- Linden, Maurice: Emotional Problems of Aging, *Psychiatry in Medicine*, Norman Q. Brill, M.D. (editor), pp. 100-119, University of California Press, 1962.
- Linden, Maurice: The Older Person in the Family, *Social Casework*, vol. 37, pp. 75-81, February, 1956.
- Lowenthal, Marjorie Fiske: *Lives in Distress*, Basic Books, 1964, New York.
- Thompson, Prescott W.: Let's Take a Good Look at the Aging, *American Journal of Nursing*, vol. 61, March, 1961.
- Thompson, Prescott W.: The Long-term Patient and Those Who Serve Him, an address presented at the Workshop on Social Aspects of Health Care of Long-term Patients at the American Hospital Association Headquarters Building in Chicago, Illinois, April 17-19, 1963 (to be published in the Proceedings of the Workshop).
- Wolff, Kurt: *Geriatric Psychiatry*, Springfield, Illinois: Charles C Thomas.
- Zinberg, Norman E. and Kaufman, Irving (editors): *The Normal Psychology of the Aging Process*, New York International University Press, 1963.

Should We Do . . .

Marriage Counseling for the Aged?

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Mr. and Mrs. A, both in their early sixties, were referred for counseling by their family physician, when Mr. A began showing many tension symptoms. It soon became apparent that the relationship between this couple was contributing greatly to Mr. A's anxiety. As counseling progressed the As were able to see that these tension-producing elements had been present throughout their marriage, but as long as both were busy, she with their two sons, he with the farm, these elements were diluted so they were able to handle them rather effectively. Following the children's marriages, and Mr. A's semi-retirement, the couple was forced into a more intensive relationship and the marital weaknesses became more troublesome. They observed the fact that real lines of communication had never been established, sexual differences had never been resolved; in short, although they were involved in a marriage of over thirty-five years, they had never gained any real understanding of each other, and only now was this breakdown beginning to make itself felt.

MARRIAGE COUNSELING has been a maligned, misunderstood, misused term, often used by the untrained and sometimes used by the charlatan. In this instance it will be applied in a rather narrow sense to techniques used by those trained professionals involved in adjustment problems of married couples. The techniques involved are not those peculiar to any one discipline and may include exploration, support, questioning or observation. A minimum of advice-giving is involved. Treatment may be of long term duration, or relatively short term. Intensity of the counseling relationship may be great or superficial. Regularity of sessions on some basis is presumed, probably one hour per week. No attempt will be made to differentiate these techniques from those used in psychotherapy, since an adequate case could be made for the fact that *good* marriage counseling and *good* psychotherapy differ only in the persons to whom they are applied.

Marriage counseling is rarely considered as a feasible possibility for the elderly. Of all the areas of the life span, this is probably the one most neglected. Far too often we are probably still operating under the illusion that as people grow old their chances of changing their habit patterns and their attitudes are so remote as to make the effort hardly worth while. There is a much greater concentration on early mar-

riage adjustment, and the large number of problems and symptoms related to this age group. Recently, we have been bombarded in both the lay and professional press with the need for increased concentration on pre-marital counseling. Emphasis is placed on this age group, and no doubt rightly so, with the idea that if many problems are resolved pre-maritally, less soft spots will develop in a future marriage. Many

People in the upper age limits have been seriously neglected as candidates for marriage counseling. Old age, and the problems accompanying it, is a terrifying time for some individuals and it is deserving of the talent and understanding of the trained professional as an assistance in increasing the awareness of the forces underlying the stresses and tensions, resulting in resolution of the accompanying problems.

professionals feel there should be provision made for counseling for widows and divorcees, since these groups face stresses and adjustments which are amenable to professional help. Now we have been noticing an increase in the emphasis on resources for assistance for the unmarried adult. The aged as a group seem to be neglected as far as any felt, expressed need for counseling services.

As the median age progresses upward more and more people in this age group will be presenting problems peculiar to the group to persons both equipped and those not equipped and not comfortable in dealing with these problems. It is perhaps not unreasonable to confront ourselves with the fact that we can no longer consider the aged as a group outside the province of intensive long term counseling, marital or otherwise.

Perhaps one of the most traumatic factors the aging and aged couple is confronted with is retirement. The counselor generally sees one of two or three reactions to retirement. In the vast majority of cases the retiree is disappointed with retirement. He

has looked forward for many years to the time when he retires as a period during which he can do all the things he has wanted to do, and never felt he had the time to do them. Now he no longer has an authority figure pushing him around, he has time for an unlimited amount of resting, golfing or whatever. He and his wife will travel extensively; they will loaf etc. When this magical day arrives it is greeted with great anticipation and happiness. Unfortunately the sharp glow diminishes. Shortly disappointments begin to show up. The husband finds his wife has an established routine which does not include him. Resting changes quickly to boredom, tension develops between the marriage partners and we have a picture taking shape of the unhappy retiree.

The second major category of retirement difficulties is embodied in the person to whom retirement is threatening and is approached with fear and dread, or even more damaging, avoided as nearly as possible. This may be the person who is faced with retirement only when the company makes retirement compulsory.

Mr. and Mrs. D are illustrative of this situation:

Mr. D is an executive with a large company. He and his wife were referred for counseling when they began having marriage difficulties. This open difficulty was of fairly short duration. Exploration reveals that there is an obvious relationship between an increase in marital tension and Mr. D's approaching retirement age. The Ds really had no plans for retirement at all. They could remember having mentioned one time not too long ago that they should decide where they would live after retirement. Retirement date was uncertain because Mr. D's company was automating rapidly and making compulsory retirements increasingly. Yet Mr. D had made every effort to ignore and evade his approaching retirement, since inactivity was repugnant to him, his work had always been extremely important to him and theirs had never been a "close" marriage. Mrs. D's dread of her husband's approaching retirement was just as intense since her husband had always seemed miserable to her when he was away from his work.

Although retirement is surely a very important stress on the aging, other stresses will include increased physical disability, financial problems, diminished sexual desire and general feelings of worthlessness, brought on by any combination of these factors. These of course, are not unusual stresses and are experienced in almost any aging marriage. It is when there is not sufficient emotional stability within the marriage that these stresses create marital difficulties.

It is interesting to note the number of apparently "successful" marriages that eventually culminate in a referral for counseling. By almost any criteria, these marriages meet the standards for success. Often there

has been very little overt hostility, the marriage has produced reasonably adjusted children, financial success may well have been obtained, and the stress situation and tension come as a great surprise. Most couples will describe their marriage as a satisfying one until this unknown, mysterious difficulty began showing up. It is only upon closer examination that the picture begins to come into focus, and the weaknesses in the apparently strong marriage begin to show up. Invariably the roots of this difficulty go back to earlier days in the marriage, indeed perhaps to the very beginning. Often we find that the most elemental adjustments were never made from the outset. Perhaps the birth of the first child served as a method of avoiding these reality adjustments. Now the wife has an interest and resources for filling up her time. The child now becomes an emotional buffer between the parents, effectively protecting them from the necessity of actually getting to know each other. If the wife has her interest in the child, the husband has an equally justifiable interest in his work. As more children are produced, the necessity for attacking the financial stresses may actually appear to unite the couple. Many couples are able to see in retrospect that when they were fighting the financial enemy they were not fighting each other. It has been observed that an outside stress situation may serve as a temporary uniting force.

Stress marks begin to show up as the children marry and leave the home. Now the wife is beginning to be faced with the feeling of diminished worth; she no longer has her children to increase her sense of accomplishment. At this point, her husband may be at or near the peak of his productivity and involvement in his work. Since lines of communication between the two have never been effectively established, the husband is in no position to support his wife emotionally and the wife must seek still other ways of obtaining her gratification. She now may turn to community activities. Many volunteer services are met by wives in this age group. Her husband is glad to see this interest develop and encourages such worthwhile activity. Again, the necessity for obtaining emotional gratification from within the marital relationship has been successfully by-passed. Unfortunately these avoidance tactics are not forever successful. Factors which served at one time to keep emotional distance between the marriage partners now reverse themselves and force the couple into closer proximity. Unresolved problems long avoided now begin to assert themselves, showing up as open hostility or more seriously in the form of tension or anxiety.

At this point, facilities for counseling should be available for the couple.

Generally speaking, there are no hard and fast

guide lines for working with the aged in a counseling situation, more than there would be for other age groups. In all probability, one of the most realistic goals is the establishment of lines of communication between the marriage partners. "Establish" is the word of choice here, since we cannot assume that firm lines were established early in the marriage. Occasionally, we may observe cases where tenuous lines of communication were established, but have broken down due to unusual stress situations, internal or external to the marriage.

In the technical handling of the case one can usually make a choice of seeing the couple jointly or seeing either or both members individually. This may be a matter of personal preference on the part of the counselor or may be dictated by such reality factors as time available, finances, distance to be traveled by the couple or individual motivation. For example, the counselor may be more comfortable dealing with individuals on a one-to-one basis, but if the couple must travel several hours to the office, this factor must be taken into consideration.

Given the opportunity, many would favor joint sessions, i.e., seeing both members of the marriage at the same time. Initially of course, this method poses some problems unique to joint counseling. Quite often, one partner responds more intensely to the stress and seeks help. If joint sessions are offered the non-symptomatic partner may well demonstrate resistance or more often express the feeling that he is present only as an observer, or to help his spouse. Obviously he is failing to see the mutual involvement at this point and striving to protect his own system of defenses.

Both Mr. and Mrs. E were referred for counseling and were being seen jointly for the first session. Mrs. E had recently been hospitalized with severe anxiety symptoms, which had responded favorably to medication. When Mr. E was asked to explain his understanding of his being included in the session, he replied that he thought the referring physician wanted him to better understand his wife, and if the counselor were willing he would just like to sit and listen to the counselor talk with his wife.

Mr. E "had always been interested in this counseling

business and wanted to see how it was used on his wife."

In a joint counseling session more activity on the part of the counselor can reasonably be expected in the beginning stage. It must be kept in mind that the couple is not in the habit of communicating and at first they will be able to talk with each other only through the counselor. Later, it would be possible for the counselor to become less active thus encouraging more direct communication between the marriage partners.

In summation, we would like to state that those people in the upper age limits have been seriously neglected as candidates for marriage counseling. Factually, this group is quite amenable to the techniques of counseling, and the need is great. There is no reason now known to discriminate against this group, insofar as any unique problems in treatment making them more difficult to work with than individuals in other age groups. Old age, and the problems accompanying it is a terrifying time for some individuals, just as the period of adolescence. It is quite deserving of the talent and understanding of the trained professional as an assistance in increasing the knowledge and awareness of the forces underlying the stresses and tensions, resulting in resolution of the accompanying problems.

References

- Colby, Kenneth M.: *A Primer for Psychotherapists*. New York: The Ronald Press Company, 1951.
- Duvall, Evelyn Millis: *Family Development*. New York: Lippincott, 1957.
- Gomberg, M. Robert, and Levinson, Frances T.: *Diagnosis and Process in Family Counseling*. New York: Family Service Association of America, 1951.
- Menninger, Karl A.: *A Manual for Psychiatric Case Study*. New York: Grune and Stratton, 1952.
- Mudd, Emily H.: *The Practice of Marriage Counseling*. New York: Association Press, 1951.
- Porter, E. H., Jr.: *An Introduction to Therapeutic Counseling*. Boston: Houghton-Mifflin, 1950.
- Rogers, Carl R.: *Client-Centered Therapy*. Boston: Houghton-Mifflin, 1951.
- Skidmore, Rex A., and Garret, Hulda VanSteeter: "The Joint Interview in Marriage Counseling," *Marriage and Family Living*. XVII (November, 1955), 349-54.
- Wolberg, Lewis R.: *The Technique of Psychotherapy*. New York: Grune and Stratton, 1954.

Epilepsy is not a disease, but a symptom of a number of possible underlying conditions. Seizures take various forms. The Epilepsy Foundation conducts educational campaigns disseminating information about this little understood disorder.

Studies of Adult Care Homes

Part I—Attitudes of Residents and Relatives; Part II—Attitudes of Employees and a Prospective Study of Residents

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PART I—ATTITUDES OF RESIDENTS AND RELATIVES

NURSING HOMES have been accepted as a means of caring for the aged. Many publications have described the physical characteristics of residents in these homes, and reviewed the problems involved in their care, i.e. extent of nursing care required, status of bladder and bowel control, medical attendance, type of staff, etc.¹ However, studies of the attitudes of the patient, his relatives, the operators of nursing homes and their employees are not common.

If one is concerned about the comprehensive care of patients in nursing homes, or "adult care homes," some attention must be focused on the emotional aspects of such care. Recently entire issues of medical journals have reviewed some of the social aspects of geriatrics and nursing home care.^{2, 3} However, the following questions are often left unanswered: Why did the patient come to the home, and what does he expect to happen to him? What are the feelings of the relatives who are left behind? What are the attitudes of the employees toward the residents? How do they view their role in the care of the aged? What happens to the residents of adult care homes?

To attempt to answer some of these questions, a study was done of all licensed nursing homes in two counties in Kansas.

Part I will report on the patients and their relatives. Part II will be concerned with the attitudes of nursing home employees, and present a prospective study of the patients of all nursing homes in two counties for a one-year period.

Method and Materials

This study involved all 277 persons residing in seven adult nursing homes, located in Wyandotte and

Johnson Counties, approved and licensed by the Kansas State Department of Health during the summer of 1962.

A. All 277 nursing home residents were contacted. Each person was interviewed for approximately one hour. Notes were not made during the interview. Information was recorded later on an appropriate form.

The results of study of nursing home care of the aged in two Kansas Counties are presented. This included contact with 277 patients, 48 relatives of these patients, 7 owners of nursing homes and 88 employees, as well as a one-year follow-up of the patients. The impressions of the various groups concerning nursing homes and their function in the community are discussed. It appears that most nursing home residents, as well as their relatives, see nursing homes as offering primarily custodial care, while the employees see a restorative function as implied in the response to sentence completion tests.

Pertinent quotations were frequently recorded in an attempt to note the mood and attitude of the person about a specific subject. Each question was evaluated by listing the number of different responses, and grouping like or similar responses together. Responses to a particular question were frequently almost identical and grouping was quite simple. For those responses not similar to other well defined classes of answers, the category of "other" was used. A few questions originally included on the form were found to have no meaning for the residents and were discarded.

B. Residents' Relatives—Relatives who were financially responsible for respective residents were contacted. In all, 48 relatives were contacted by phone

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initially; 36 of these were interviewed in this fashion. Twelve others were seen in their homes, at their convenience. The interviews were conducted in the same manner as with the residents; no notes were taken during the session.

Results were also tabulated by question, and common responses were grouped together. Notation was made of willingness to talk and ability to relate to the interviewer. Pertinent quotations were recorded to aid in interpretation of the responses.

Results

A. Data on Patients—Tables 1 and 2 list the distribution of patients according to sex and marital status. There were 145 aged persons with whom a successful interview was not possible. However, some information or opinion was often attainable. Fifteen of the patients had a physical impairment such as aphasia which prevented conversation. There were 130 residents with an underlying disease such as organic brain syndrome which limited the usefulness of the responses. Fifty-seven had slight to moderate limitation; 73 had severe limitations. Data obtained by personal interviews with the residents concerning their movement and adjustment to the home are presented in Tables 3, 4 and 5. In response to questioning as to whether the resident wished to come to a nursing home, the following was recorded: In 94 cases the move was not their idea but they saw the reasoning behind it and they accepted the transfer. Forty-eight said this was their idea; thirteen did not want to come to the home. Several possibilities were suggested by residents as alternatives to come into the home or returning to their former residence.

TABLE 1
SEX OF PATIENTS

<i>Sex</i>	<i>Number</i>	<i>Percentage</i>
Male	48	17.0
Female	229	83.0

TABLE 2
MARITAL STATUS OF PATIENTS

<i>Marital Status</i>	<i>Number</i>	<i>Percentage</i>
Single	26	9.3
Married	26	9.3
Divorced	1	0.3
Widow	222	81.1

TABLE 3
RESIDENCE PRIOR TO COMING
TO THE HOME

<i>Residence</i>	<i>Number</i>
Living at home alone	96
With a child and family	26
With other relative	20
With husband	14
Other	8

TABLE 4
NUMBER OF LIVING CHILDREN

<i>Number of Children</i>	<i>Number of Residents</i>
None	62
One	63
Two	39
Three	29
Four	18
Five or more	11
Information not available	55

TABLE 5
FACTORS WHICH THE RESIDENT FEELS
CAUSED HIM TO MOVE TO THE HOME

<i>Factors</i>	<i>Number</i>
The relatives felt the person could no longer safely live alone	69
The person became too ill to be cared for by those with whom he had been living	43
The person could no longer care for himself or was lonely	38
He was told he upset family life	10
"Other"	9
He came only because spouse did	4

Fifty were living with their children but felt unwanted. Ten suggested that they could live in an apartment near a relative. Eighty-three had no alternative suggestion.

One hundred and forty-three of the residents were aware of what was happening when they were transferred to the home; 13 were not. One hundred and nine were hospitalized immediately prior to coming to the home; 56 were not. The majority of residents (127) felt that relatives made the initial suggestion of a nursing home. On 33 occasions the resident himself made the suggestion. In 24 instances the other

TABLE 6
RESIDENT'S IMPRESSION OF THE
INTENDED FUNCTION OF THE HOME

<i>Intended Function</i>	<i>Number</i>
Provide a permanent place to stay, being un- able to care for self	93
Provide temporary place to stay while re- covering from an accident or illness	36
Provide permanent place to stay, being able to care for self	33
Provide temporary place to stay, being able to care for self	2

primary source of such a suggestion was the family doctor or minister. Following the initiation of such a suggestion, the relatives were responsible for affecting the move to the home without the assistance of the resident in 67 cases. The move was a joint endeavor between the residents and relatives for 60 patients. The resident alone was responsible for the move in 26. Tables 6, 7, and 8 indicate the resident's impression of the intended function of the home, what the home has done for the resident and his impression of living in the home. The anticipation of the resident may be summarized as follows: One hundred and four expected to die in the nursing home; 48 expected to leave the home prior to their demise.

B. Contact with Relatives—Relatives of the residents in only four of the homes were contacted. Of the three homes not represented by this part of the study, one had only four residents, another 17 and the third would not divulge the identity of the next of kin. A total of 48 contacts was established with relatives. On 37 occasions they were willing to discuss the placement of resident. Four of the individuals contacted refused to discuss this and on seven occasions the discussion was limited to superficial facts only. Tables 9 through 14 demonstrate the results of

TABLE 8
RESIDENT'S ATTITUDE TOWARD
LIVING IN THE HOME

<i>Attitude</i>	<i>Number</i>
"Yes" liked living in home	57
All right, but would rather be home.....	53
All right, but doesn't like the "sickness and old people"	16
Doesn't like anything	15
All right, but feels loss of freedom	10

TABLE 7
RESIDENT'S IMPRESSION OF WHAT
THE HOME HAS DONE FOR HIM

	<i>Number</i>
Only provide a place to live	110
Actual physical improvement while in the home	24
Made him more comfortable enjoying life more	20
Made him "more understanding"	6

these interviews. Most of the relatives saw the homes as providing only personal care; eight out of 46 felt that the home would accomplish some improvement in physical condition of the patient.

Discussion

Contact was also made with the residents of the nursing homes. In interpreting the results of this phase of the study, it should be remembered that the responses of only one half of the residents are recorded, the remainder being unintelligible due to underlying disease processes. It is unfortunate that the mental status of the latter group was not recorded at the time of entry into the home as it might have had a bearing on determining why the resident came to the home. The majority of patients were living alone before coming to the home. The remainder were living with a relative, and a few were in other homes or institutions. Of those who came to the home with a spouse, one was usually dependent upon the other for care, and when the "well spouse" became ill, both had to come to the home.

At least two thirds of the nursing home residents had at least one living child. This would not support a belief that patients in nursing homes have no close relatives who care what happens to them.

Many residents stated they were in the home because of illness or inability to live alone. However,

TABLE 9
HOME OF THE RESIDENT PRIOR TO
THE NURSING HOME ACCORDING
TO THE RELATIVE

<i>Home</i>	<i>Number</i>
Living at home alone	20
With a child and family	14
With spouse	7
In a mental institution	2

TABLE 10
OPINIONS OF RELATIVES ON THE
PRINCIPAL ADVANTAGE OF THE MOVE
TO THE HOME

<i>Principal Advantage</i>	<i>Number</i>
Place where the resident can be cared for, being given custodial care	24
"A load off the family"	18
A place to recover from an injury or ill- ness	4
Other	2

living in a home "with all of those old people." One would wonder about the mood of those patients (two thirds of the total) who said they would die in the home. In Part II of the study, this attitude was examined in regard to the employees' responses.

Over all, there was apparently some adjustment to a type of life which holds few external stimuli compared to what the "average" person might expect. It is interesting to speculate on the probable mental attitudes of an "average, well-adjusted" person after a few months of living in a nursing home.

From the various questions and responses, it was concluded that about one third of the patients felt that they were being helped by being in a home.

it is suggested that many did not whole-heartedly agree with this, but rather were forced to accept it. This does not detract from the finding that about 25 per cent were living alone and willing to come to the home. Considering the frequency of hospitalization prior to coming to the home, it appears probable that there was a definite medical reason for at least a third of the residents coming to the home. This might be even more frequent in the large group of "non-responders."

Although three fourths of the residents stated that

TABLE 12
FACTORS WHICH MADE A MOVE
TO THE HOME NECESSARY

<i>Factors</i>	<i>Number</i>
The resident was no longer physically or mentally able to live alone	22
Became too ill to be cared for by the re- lative	19
Was too confused to keep any longer in the children's home	6

TABLE 11
THE PRINCIPAL DISADVANTAGE OF THE
MOVE TO THE HOME ACCORDING
TO RELATIVES

<i>Principal Disadvantage</i>	<i>Number</i>
"None"	15
The resident did not want to go	9
Loss of freedom for the resident	8
The relative feels guilty	7
Expensive	4

They were not anxious to leave and were for the most part happy with what they were receiving.

A relative of the nursing home resident was also contacted. It was interesting to note the varied reaction to an inquiry about placement of a relative. About one fourth of the relatives were defensive and a few flatly refused to answer questions, in spite of reassurances given. On the other hand there were those who were happy to talk about the situation.

they were not responsible for the decision to move to a home, at least one half felt they aided in the selection of the home. Apparent also is the group which relied on professional advice. There is no data regarding how many others asked for help from their doctor. The physician has the obligation to be well enough acquainted with resources for care of the elderly to guide a family when placement becomes necessary.

One third of the patients stated that they liked living in the home. When a dislike of some phase of the home was listed in the responses, this was repeatedly emphasized. An attitude frequently expressed was that the elderly person did not like

TABLE 13
OPINION OF THE RELATIVE REGARDING
NURSING HOMES

<i>Opinion</i>	<i>Number</i>
Poor prior opinion, like them now	13
No prior contact or opinion, but like them now	11
Prior contact favorable	8
Place for those unable to care for them- selves	4
Perfect solution	3
Place where people are placed to be for- gotten	2

TABLE 14
PERSONS INFLUENCING THE CHOICE
OF A NURSING HOME

Influencing Person	Number
The family doctor or minister	21
Had prior knowledge of the home	10
No one, they merely looked in the phone book and want ads	7
A knowledgeable friend	5

In reference to a question about the advantage of the move to the home, half saw this as a means of giving custodial care. A little more than one third said the move was a means of taking a load off the family, possibly reflecting an attitude not oriented towards the elderly individual. In talking to the relative, several expressed the feeling that the children deserve a chance to live their own lives and not to be tied down by an elderly relative. This is an attitude which has become more commonplace as noted in *Filial Responsibility in the Modern American Family*.⁴

Concerning the disadvantages of the move, there was a multitude of responses. About one third flatly stated "none" to this. Most interesting of the other responses were those who said the disadvantage was their feeling of guilt about placing the relative in a home. About one third of the responses were oriented favorably towards the elderly person but were more concerned with their own feelings, than a change in quality or quantity of care. Considering the above responses, one wonders if emotions might be more likely to determine the home selected rather than a consideration of the needs of the elderly.

The majority of the relatives contacted found it difficult to give their impression or had a poor impression, prior to placement of the relative.

When asked about the function of the nursing home, only a sixth felt that the elderly person was there for physical improvement, the remainder seeing it as providing personal care. On this basis, over 80 per cent saw the nursing home as giving custodial care only, and not offering care leading to physical and mental improvement.

Inquiring about the method of selecting the home, it was found that half had professional help. This should again suggest that a physician be familiar with resources available. Those who resorted to friends or the phone book suggest another need. It would be very helpful if there was a means of providing information on community resources. In this manner, the needs and resources of patients could be matched with the available facilities.

**PART II—ATTITUDES OF EMPLOYEES
AND A PROSPECTIVE STUDY
OF RESIDENTS**

In Part I of this study the attitudes of patients and responsible relatives regarding the transfer of persons to nursing homes were reported. It was observed that patients often had rather negative attitudes towards their move to the nursing home. Many relatives evidenced some feeling of guilt with respect to the "rejection" of their relative or patient.

Besides the attitudes of the residents and those who are mainly responsible for their admission to the home, it was felt important to assay the attitudes and motivations of the persons who were providing the day-to-day care of patients in these homes. This phase of the study will be reported in this paper. A prospective study over a one-year period of the fate of all the residents in the homes in the two county area was also done and will be reported here.

Methods

Before completing the interview of residents of a particular home, the nurses, aides and orderlies who cared for the residents were asked to fill in a Sentence Completion Form. This was designed to explore feelings about the aged person, his work in the home, and what the employee felt the home should do for the residents. This form was explained to personnel in groups at changes of shift, when the majority of them were present, in order to avoid variation in presentation. They were informed that this had no effect on their job, and not to write their name or position on the sheets. The completed forms were placed in a sealed container in a convenient location.

The responses were evaluated as to whether feelings expressed were positive, neutral or negative towards the nursing home resident, work, or the topic of the sentence.

After completing the study in a particular home, the owner was asked to cooperate in a one-year follow-up of the population which existed in the home

TABLE 15
AGE DISTRIBUTION OF EMPLOYEES

Age	Number
16-20	23
21-30	7
31-40	6
41-50	17
51-60	9
61-74	3

TABLE 16
RESPONSES TO SENTENCE COMPLETION TEST
IN THE ANALYSIS OF THIS DATA

<i>Phrase</i>	<i>Example of Responses</i>	<i>Positive</i>	<i>Neutral</i>	<i>Negative</i>
I like				
	"caring for the old"	40		
	"people"		47	
When a patient leaves a Nursing Home				
	"I am happy he can go home"	54		
	"he will be replaced"		4	
	"he is dead"			12
The happiest time				
	"helping others," "when my patients are well"	39		
	"spring"		22	
	"when away from here"			8
I first applied for work here because				
	"I like to care for the old"	44		
	"I needed the job"		29	
When I grow old				
	"I want to be in a home like this"	8		
	"I'll collect Social Security"		17	
	"I hope I don't live too long"			52
What annoys me				
	"those who neglect the old"	34		
	"gripping"		21	
	"an over-demanding patient"			16
Other people				
	"should respect us for what we do for the aged"	12		
	"interest me"		60	
Old folks				
	"are wonderful"	33		
	"okay"		15	
	"are self-centered"			24
The future				
	"is bright"	36		
	"depends on me"		14	
	"death for the old"			26
When I am around older people				
	"I try to make them happy"	50		
	"I think of their past"		6	
	"I am depressed"			20
This place				
	"nice for the aged"	68		
	"is okay"		5	
I feel hurt				
	"when not appreciated"	46		
	"seldom"		15	
Some of the patients remind me of				
	"parents," "small infants"	58		
	"myself"		5	
	"animals," "spoiled children"			13
Doctors				
	"wonderful"	41		
	"okay"		1	
	"shun the old"			24

TABLE 16 (Continued)

Phrase	Example of Responses	Positive	Neutral	Negative
To me	Nursing Homes seem			
	“a wonderful place for the old”	27		
	“necessary”		41	
	“cold and dreary”			15
I feel	proudest			
	“when I can help someone”	34		
	“when complimented”		21	
I enjoy				
	“helping the old and sick”	48		
	“life”		25	
When a person becomes too old to care for themselves				
	“they should go to a Nursing Home”	62		
	“the family should care for them”		13	
	“they should be allowed to die”			5
The elderly people whom I have known				
	“wonderful,” “an inspiration”	56		
	“were a burden on others”			17

when the study was initiated. Each month a form was sent to each home. It was marked as to whether each resident was “still present” or “left the home,” and if so, why. These were returned each month.

Results

The age ranges as placed upon the forms are tabulated in Table 15. Twenty-three of the employees neglected to include their age on the form. Table 16 illustrates the responses to the sentence completion test and the analysis of this data. Each of the seven nursing homes provided a monthly summary of the status of the inhabitants at the time of the original visit. The data showing the cumulative mortality and transfer of living patients from these homes is presented in Table 17. It also presents a detailed analysis of the one-year follow-up for each nursing home.

Discussion

In this phase of the study, interest centered about the people caring for the aged, why they were in this type of work, and what satisfaction they received. Although the Sentence Completion Form is only a limited expression of their attitudes and motivations perhaps an impression can be gained from the responses given.

In reviewing the ages of the employees, one notes the majority (40/65) are in either the 16-20 or 41-50 year old age groups. Most of those in the younger group were pre-nursing or nursing students who were “trying out” their chosen field.

The responses on the Sentence Completion Forms were divided into three groups expressing either positive, neutral, or negative feelings regarding the subject of the sentence. It was observed that while the majority viewed older people as “wonderful” and saw their future as “bright,” they also implied a discouraged outlook hoping that “they don’t live too long when they are old.” The responses of the group indicate a desire to “care for the old” and a disapproval of those who neglect the old. Approximately 20 per cent of the employees expressed a negative attitude towards the older individual seeing them as “burdens on others.” Upon evaluating the responses of each of the predominate age groups involved—teenagers and middle-aged women—it was found that there was *no* significant difference between the responses of the two groups. This might imply that the attitudes towards the various topics had become more uniform as the result of association of the two different age groups. It also might imply that the attitudes of the younger women who sought employment in nursing homes were not commensurate with their chronological age, but more similar to women two to three times their age. The possibility that such employment meets the needs of individuals with masochistic tendencies could be the subject of considerable speculation.

The majority of employees felt that nursing home inhabitants would eventually return home; this implies a restorative function to the nursing home. This would seem optimistic in view of the fact that only

TABLE 17
DETAILED ANALYSIS OF ONE YEAR
FOLLOW-UP FOR EACH NURSING HOME

Home Number	1	2	3	4	5	6	7	Total
Number of patients at start of study .	55	43	40	18	72	45	4	277
Number deceased in one year	14	3	10	3	10	8	0	48
Per cent deceased .	25	7	25	17	14	18	0	17.3
Number moved in one year	13	6	6	3	10	4	1	43
Number who moved to another N. Home	7	4	1	3	7	0	0	22
Number who moved "back home" . . .	6	2	3	0	0	1	1	13
Number who moved to a hospital . . .	0	0	2	0	3	3	0	8
Total dying or mov- ing in one year . .	27	9	16	6	20	12	1	91
Per cent dying or moving in one year	49	21	40	33	28	27	25	32.8

usual transfer rate, but would not affect the death rate.

The 32.8 per cent change in the population during one year is no doubt larger due to the factors mentioned. However, this does not change the total number of deaths during the year.

At this point it would not seem possible to define a particular role played by these nursing homes (as a group) in the care of the aged. Their function tended rather to vary from one home to another (and from one employee to another). The results of the interaction of desires, loyalties, responsibilities, and resources of the patient, relatives, and employees will no doubt continue to determine the effect of the home on the patient in terms of happiness, health, and survival.

References

1. *Characteristics of Residents in a Sample of Care Homes for the Aging in Kansas*, Kansas State Board of Health, 1959.
2. "The Geriatric Patient and His Social Environment," *Geriatrics*, vol. 16, No. 12, Dec. 1961.
3. Special Geriatric Issue, *Journal of Kansas Medical Society*, Feb. 1963.
4. Schorr, Alvin L.: *Filial Responsibility in the Modern American Family*, U. S. Department of Health, Education and Welfare, 1960.

13 of the 91 who were observed to leave the homes during the 12-month follow-up period, actually did return to their previous environment. Perhaps one of the most interesting responses was to "doctors." Approximately one third of the employees felt that doctors "shun the old." This could have been caused by number of factors ranging from some physicians' reluctance to make nursing home calls, to an interpretation of doctors' attitudes towards aging in general. The impressions from different sentences about who really cares what happens to the elderly leave the impression that many nursing home employees see themselves as the only champion of the cause of the aged, standing alone against a sea of disinterest and indifference on the part of the family, friends, and physicians.

Of the 277 patients living at the homes at the start of the study, 91, or 32.8 per cent had left within one year. Of these, 48 had died and 43 had moved from the home. The change in population was the highest in the home which functioned like a hospital, and admitted primarily those who were ill. It was lowest in the home which preferred its residents to be in good health. At the beginning of the follow-up a new county home opened in one of the study counties, transferring several recipients of welfare from other homes. This would cause a higher than

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Accreditation of Nursing Homes

Establishing Reliable Criteria in Making a Choice of Facilities

D. V. PREHEIM, M.D., *Newton*

What Accreditation Is

EXPERIENCE with accreditation of hospitals has demonstrated that voluntary classification and accreditation of nursing homes has the potential for upgrading standards of care beyond minimum acceptable requirements of licensing programs. Accreditation is the recognition accorded an institution, that meets the criteria established by a competent agency, which considers these criteria as the minimal condition under which good quality care can be rendered.

Accreditation of nursing homes differs from licensure in that it is voluntary and seeks to upgrade nursing home care beyond the minimum required for licensure. Licensure is granted by the state of Kansas through the State Department of Health. The requirements for licensure were rewritten and put into effect in Kansas in January, 1963, upon publication of the "Standards, Rules and Regulations for Adult Care Homes in Kansas." Three categories of "Adult Care Home" licensure are spelled out: skilled nursing care, personal care, and boarding homes. In a general way the first two categories of "Adult Care Home" licensure in Kansas fit the first two categories of "National Council Accreditation of Nursing Homes."

The process of accreditation entails four factors.

- (1) Development of standards.
- (2) Survey of facilities by individuals, particularly qualified, to evaluate how well standards are met.
- (3) Awarding of an appropriate symbol of recognition to nursing homes which meet the standards, and advising all facilities surveyed whenever they have failed to meet the standards.
- (4) Periodic re-inspection of accredited facilities to ascertain whether they continue to meet the standards, and re-inspection of facilities which fail to be accredited to determine if sufficient improvement has occurred which would meet accreditation.

Establishment of an accreditation program is evidence of willingness on the part of the nursing homes to set and maintain standards. Conducting such a program indicates willingness on the part of the sponsoring organizations to assume responsibility for good practices.

The NCANH program for nursing home accreditation is explained and its history is briefly reviewed. The process of accreditation is briefly outlined and some potential benefits are pointed out. Kansas physicians are urged to give their wholehearted support and encouragement to the program in their respective communities.

History of Nursing Home Accreditation

The need for accreditation of nursing homes was recognized by professional authorities at the National Conference on Nursing Homes and Homes for the Aged, sponsored by the Public Health Service in February, 1958. Subsequently several state and regional organizations, some of which were affiliates of the American Nursing Home Association (ANHA), began to establish accreditation programs of their own.

It was generally believed that these local programs would delay significant improvement in the quality of nursing home care and increased financial participation by third-party payers. In order to forestall the growth of these programs and to prevent confusion in the health field, the ANHA voted in March, 1961, to establish a national accreditation program. The Kansas Nursing Home Association participated in this effort and invited the Kansas Medical Society, through its Committee on Aging, to participate. This was done and three adult care homes were surveyed and accredited. All three accreditations were subsequently accepted by the National Council for Accreditation of Nursing Homes.

Meanwhile the Joint Commission on Accreditation of Hospitals—which is sponsored by the American Medical Association, the American Hospital Association, the American College of Physicians, and the American College of Surgeons—was also considering the establishment of an accreditation program for in-

patient care institutions other than hospitals. After months of negotiations with several national organizations, the sponsoring organizations of the Joint Commission decided in March, 1963, to discontinue any further action on Nursing Home Accreditation. (The Joint Commission has recently announced a nursing home accreditation program of its own.)

Subsequently in mid-April, 1963, the AMA and the ANHA announced a plan for a jointly-sponsored national accreditation program for nursing homes. In establishing the National Council for Accreditation of Nursing Homes (NCANH), it was recognized that nursing homes are medical care facilities. Therefore, it was decided not to accredit residential or domiciliary care facilities.

Who Accredits

The NCANH was formed by the AMA and ANHA and these are currently the only sponsoring agencies; the by-laws permit the addition of other sponsoring agencies. It is hoped that the Joint Commission will want to cooperate in the National Council's program. The National Council, headquartered at 645 North Michigan Avenue, Chicago, functions under a nine-member board of directors composed of five physicians and four nursing home administrators. The Council is served by an executive director with appropriate supporting staff.

The objectives of the National Council are as follows.

- (1) To establish and conduct an accreditation program, which will foster standards of professional nursing care under medical supervision, in nursing homes throughout the United States.
- (2) To establish and promote sound principles of organization and administration in these facilities.
- (3) To promote the establishment and improvement of essential services in these facilities.

Who Is Eligible

In order to be eligible for survey, a nursing home must have a state license. Accreditation is granted at three levels of care: intensive nursing care, skilled nursing care, and intermediate care. In general, only the adult care homes possessing skilled nursing home licenses and the personal care homes would qualify for accreditation. The program will accredit all government, nonprofit, or proprietary nursing homes that meet the standards set by NCANH. Although it doesn't accredit facilities whose principal function is to provide residential or domiciliary care, infirmary units of such facilities may be considered for accreditation.

Standards for Accreditation

Each facility applying for accreditation is carefully evaluated by the National Council on the basis of written standards. These standards are constantly being reviewed and improved.

Facilities are accredited at one of three levels.

(1) *Intensive Nursing Care Facility*—Nursing service is under the supervision of a full-time registered professional nurse, and a registered professional nurse is on duty at all times.

(2) *Skilled Nursing Care Facility*—Nursing service is under the supervision of a full-time registered professional nurse. A registered professional nurse or a licensed practical nurse is on duty at all times.

(3) *Intermediate Care Facility*—Nursing service is under the supervision of a full-time registered professional nurse or a full-time licensed practical nurse. An attendant is on duty at all times; at night the attendant is awake and fully dressed.

A certificate of accreditation is granted to a nursing home when it meets the NCANH standards. All surveyed nursing homes are offered constructive suggestions and recommendations for improving conditions. Special assistance is given to those homes which do not qualify for accreditation to enable them to meet the standards at a later date.

In addition to the initial survey, accredited nursing homes are periodically re-surveyed to ascertain whether they continue to meet the standards. Facilities which initially fail to obtain accreditation may request a re-survey to determine if there has been sufficient improvement to merit accreditation.

Advantages of Accreditation

(1) *Nursing Homes*—Accreditation provides nursing homes with a yardstick, a set of standards, against which their own facilities and services may be measured. This evaluation points out the specific areas for improvement and helps the nursing home keep pace with advances in medical and nursing care. Accreditation indicates a willingness on the part of the nursing home voluntarily to meet quality standards established by a competent, recognized authority.

(2) *Medical Profession*—Physicians must have reliable criteria by which they can evaluate the quality of care in nursing homes. Accreditation facilitates physician recognition of high quality nursing homes. Physicians can avoid hospitalization for some patients and reduce the length of hospital stay for others if high quality care is available in the community's nursing homes.

Lists of accredited nursing homes are provided

periodically to state medical societies who in turn make this information available to their members and other interested parties.

(3) *Third Party Insurers*—Third party insurers are interested in having nursing homes accredited in order to facilitate insurance coverage. A most difficult problem faced by health insurers is clear identification of confinement in nursing homes as a matter of medical necessity. Since the coverage provided by health insurers is intended to offer protection against the cost of medical care, the insurers are not in a position to provide benefits for a patient who is in a nursing home for essentially domiciliary care.

The National Council will be working with the health insurance industry in distinguishing whether or not the insured patient is receiving skilled nursing care or whether he is receiving domiciliary care. The Council, by providing the health insurers with lists of accredited facilities, identifies facilities with patients who have been placed there for medical reasons and are receiving skilled nursing care. This accreditation program will make it increasingly possible for health insurers to make available to older persons coverages designed to meet their particular needs for insurance protection.

(4) *The Public*—Accreditation by the NCANH means that the facility and the professional ability of its personnel have been evaluated and have been found to meet uniform national standards of high quality. Nursing home accreditation indicates that the facility has voluntarily demonstrated ability to provide a high level of patient care and thus, provides a concrete basis on which the public can rely in making a choice of facilities.

The NCANH recognizes that the current program should be flexible enough to permit changes. Accordingly, the National Council is constantly looking for ways to improve its program, keeping in mind the main objective of accreditation—to serve and protect the public interest.

For the reasons outlined, the AMA Commission on Aging and the Kansas Medical Society's Committee on Aging urge the physicians of Kansas to promote accreditation of the nursing homes in their communities and to give them all possible assistance.

One of the accredited nursing homes in Kansas closed. As of September 30, 1964, Kansas had only two accredited nursing homes with 147 beds. This compares nationally with 389 facilities with 24,958 beds in 40 states.

ANENCEPHALY

As part of a study of the pituitary, adrenal gland, and estrogen metabolism, we are quite anxious to obtain fresh tissue, maternal and cord blood in cases of anencephaly. We would appreciate any physician in the Kansas City area having such a case to allow one of us to be present at delivery to obtain the specimens. Or, if practical, the pregnant patient could be transferred to either our private or teaching service for extensive endocrine study prior to delivery. We would be most grateful to any physician who would call either of us prior to delivery.

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HUMAN OVA BANKS?

Human ova banks comparable to sperm banks may be within range of reality, according to Dr. James L. Burks of the University of Chicago.

By using a deep-freeze technique—nearly 200° below 0° C.—he has succeeded in safely freezing follicular eggs from women as well as rabbits. He finds that upon thawing, the ova appears morphologically intact and capable of fertilization. Implications are far-reaching. He envisions the eventual use of frozen ova for couples who are childless because the wife is infertile.

Human ovaries, removed during hysterectomy, yield eight to ten preovulatory ova each. These are frozen as easily as those from rabbits, Dr. Burks said. Human ova already have been successfully fertilized in the test tube.

Several clinical uses for the technique are foreseen. One would be a variation of artificial insemination: using sperm from a sterile woman's husband to fertilize, *in vitro*, frozen and thawed ova from another woman, and then transplanting the resulting embryo into the sterile wife's uterus.

Senior Citizens Programs

Health Care Programs Currently Available for People Over Age 60

APPROXIMATELY 80,000 Kansans, age 60 and over, are enrolled in Kansas Blue Cross-Blue Shield either on an individual basis, at their place of employment, or through the more recent Senior Citizens programs which have been introduced.

A special Senior Citizens program was offered nation-wide early in 1963 by Blue Cross-Blue Shield plans. Kansas Blue Cross-Blue Shield participated in this program with 4,000 older citizens actually enrolling. There was a limited period—actually December, 1962 and January, 1963—in which Kansans could enroll in this new program available to people age 60 *regardless of health*.

The program was first announced for a 30-day campaign in this state, but because of the interest shown, the enrollment was extended another month. At that time Kansas Blue Cross President, Henry J. Meiners, Leavenworth, and Kansas Blue Shield President, Dr. E. Burke Scagnelli, Dodge City, had this to say, "This is just one more way that our organization has attempted to make high-level health care benefits available to older people." They added, "This new program was designed primarily for those who did not already have Blue Cross-Blue Shield coverage. During the limited enrollment period, older Kansans could enroll regardless of health or age."

It was discussed nationally at the time of the first introduction of the Senior Citizens program that it would be offered annually for a limited period, or at least once every two years; however, there has not been another offering since January, 1963.

The new program was endorsed nationally by the American Medical Association and local medical societies were urged to support it. In a resolution adopted by the Trustees, the AMA declared: "In December, 1958, a policy adopted by the AMA House of Delegates recommended that physicians 'expedite the development of an effective voluntary health insurance or prepayment program for the group over 65 with modest resources or low family income,' and 'that physicians agree to accept a level of

compensation for medical services rendered to this group, which will permit the development of such insurance and prepayment plans at a reduced premium rate.' "

Series 60, Another Program for Older Citizens

The Kansas Plans, at about the same time as the offering of the Senior Citizens program, took it upon themselves to offer another program to older citizens beginning in March, 1963. It would be less expensive, but would require a health statement. It is called the "Series 60" program, and is a Major Medical type of coverage for people age 60 or over. After the subscriber pays the first \$200 of his medical expenses during any contract year, the new "Series 60" takes over and pays 80 per cent of the covered charges. There are no deductibles after the first \$200 each contract year.

"Series 60" Major Medical offers within the limits of \$5,000 benefits per lifetime: no limit on hospital days and 80 per cent coverage on specified hospital-medical services with no waiting periods. The "Series 60" program costs less per month than the Senior Citizens Plan but there are limitations placed on benefit eligibility for pre-existing health conditions. Any person over 60 may enroll in the "Series 60" Program and it is offered continuously by Kansas Blue Cross-Blue Shield.

These two programs offered by Kansas Blue Cross-Blue Shield for older citizens are primarily for older Kansans who do not already have Blue Cross-Blue Shield coverage. No Blue Cross-Blue Shield subscriber is ever cancelled because of age. Days are cut back to 30 per contract year, but the subscriber will be able to maintain his coverage as long as he pays his dues.

As a result of the fact that Kansans are not cancelled because of age, over 70,000 people, age 60 and over, were already enrolled in the plans before the new plans were introduced.





Local Recurrence of Breast Carcinoma: Pathogenesis and Management

Edited by PAUL S. QUINN, M.D., *Kansas City, Kansas*

Dr. Stanley Friesen (Surgeon and Moderator): The patient for discussion today has a relatively long history of local recurrence of carcinoma which was primary in the left breast. Carcinoma of the breast is a tumor which is bizarre in its natural history. One of the interesting things about carcinoma of the breast is that approximately 20 per cent of females with carcinoma of the breast are alive at the end of five years even though they have received no treatment. It is a tumor that is usually under endocrine or hormonal influence and its progress can be rapid and fulminating or slow and insidious. The patient being presented today represents the latter. Dr. Simons, would you please present the clinical history.

Dr. John Simons (Plastic Surgery Resident): The patient for discussion is a 67-year-old Negro female who was first seen at this hospital in October, 1957. She was admitted for a checkup and was found to have a lump in the left breast. The diagnosis of primary adenocarcinoma of the left breast was made and radical left mastectomy was carried out. One out of 21 axillary lymph nodes examined showed the presence of metastatic tumor. After the operation, she was followed in the clinic and in March, 1959, recurrent tumor was found in the skin. Excisional biopsy of this lesion revealed tumor to be present in four lymph nodes removed. She received a course of x-ray therapy at that time. On frequent follow-up examinations no further abnormalities were detected until November, 1960, when a mass in the line of incision was found and was thought to be recurrent tumor, but on biopsy no tumor was evident. No further difficulty was encountered until January, 1964, when a third mass appeared in the line of incision and on biopsy recurrent breast tumor was encountered. She was then given x-ray therapy, ap-

proximately 4,000 r over a course of five weeks. In October, 1964, she was admitted to the plastic surgery service because she had developed an ulcer at the site of radiation therapy. The ulcerated region involved the original mastectomy scar and had failed to heal.

Dr. Friesen: How large was this ulcer?

Dr. Simons: The ulcer was approximately 2 cm. in diameter and was located at the apex of the mastectomy scar. The arm was very lymphedematous and the tissue surrounding the ulcer was also lymphedematous and would be expected to have poor healing qualities. To achieve healing of this chronic ulcer we decided to raise a large pedicle flap from the shoulder area, four to five inches in width and approximately seven to eight inches in length. The flap was raised but not moved with the intention of going back several weeks later to raise the flap again, resect the ulcer and swing the flap down over the wound created. Biopsy examination of the ulcerated lesion was negative, revealing no evidence of tumor. The patient returned approximately one month later for completion of the surgical procedure originally initiated. The ulcerated area was removed by block dissection, the skin flap was turned down over the area of block dissection and the flap site was covered with a skin graft. During this procedure, a frozen section of the ulcer bed was obtained in order to be sure that no tumor was present, and to our surprise the pathologist found tumor in the biopsy specimen. We were then forced to do a slightly more radical procedure than was originally planned and we removed the medial one-third of the first and second ribs and the medial half of the clavicle. We excised all tissue external to the pleura at this site and, in one small area, we opened the

pleura, at which time we could see normally expanding lung beneath. This was easily repaired and we then completed the procedure planned. The patient did very well postoperatively and the wound healed perfectly. The patient was discharged on her seventh postoperative day. There is no evidence that tumor was left behind after the excision of ribs and a portion of the clavicle. If tumor does recur, we feel that we can offer no additional surgical help. During the operative procedure, we saw no evidence of direct extension of this tumor to involve the visceral pleura or the underlying lung.

Dr. Friesen: Has she had any hormonal therapy?

Dr. Simons: No.

Dr. Friesen: Is she postmenopausal?

Dr. Simons: Yes, she was 60 when the tumor was first encountered.

Dr. Friesen: So this is a 67-year-old postmenopausal woman with carcinoma of the breast who has had surgical and x-ray therapy but has not had chemotherapy or hormonal treatment.

Now we must remember that this 67-year-old woman has been followed for seven years after she was found to have carcinoma of the left breast with lymph node metastases to one of 21 lymph nodes examined. She has had a five year survival but, of course, this is not synonymous with cure, particularly when we are discussing breast tumors. Her recurrence has not been one of distant lymphatic or blood borne metastases but has been extension of the disease locally within the skin and local lymph nodes. Recurrence was first noted 18 months after the original operation and since that time there has often been great difficulty in determining whether there is recurrence within the skin. There have been negative biopsies and positive biopsies. May we see the x-rays, Dr. Tice?

Dr. Galen Tice (Radiologist): X-rays taken in 1957 prior to the original surgery show no pathology. The patient had x-ray therapy to the left axillary region in the spring of 1959. In the fall of 1959 a shadow appeared in the apex of the left lung. Because she had metastases she had been irradiated heavily. This shadow in the apex of the lung was interpreted as irradiation fibrosis which does occur as a complication of heavy lung radiation. I am very sure this cannot be distinguished from tuberculosis or an inflammatory process, but it does not look like metastatic tumor. Chest x-rays in 1961 revealed this same shadow in the left lung and the same shadow is visible in x-rays taken in 1962 and again in 1964 with no change.

Dr. Friesen: Are any bony metastases evident?

Dr. Tice: I did not see bone metastases.

Dr. Friesen: I suppose a mammogram was not done in 1957?

Dr. Tice: I think not.

Dr. J. O. Boley (Pathologist): I think the finding of one positive lymph node at the time of the first operation is enough to indicate that this woman's chance of five-year survival is cut almost in half of what it would be if she had had no lymph nodes involved.

The tumor is a rather interesting type and in these first sections we can see the margin of tumor with adjacent adipose tissue being invaded. The major mass of the tumor shows considerable fibrosis and on higher magnification we can see ducts around which the basement membrane is intact with adenoid-cystic type of tumor growing within the duct, without a supporting stroma. If we saw only this duct we would have to interpret this as an *in situ* intraductal type carcinoma. Naturally, we know this tumor is more advanced because in looking around this duct it is evident that tumor is invading stroma. In other areas we see a duct filled with tumor which doesn't resemble the adenoid-cystic type shown above but the central portion of the tumor within the duct is necrotic and fits the descriptive criteria of comedo type of intraductal carcinoma. If we had either one of these two intraductal type carcinomas, without the surrounding invasion and metastasis that are evident, the patient would have had a very good prognosis. In other areas the tumor within the ducts shows variation in size of nuclei with mitotic figures being evident and there is no doubt about this being a malignant tumor. At higher magnification at the periphery of the tumor, fat is invaded and we see small cords and nests of tumor cells with very little tendency for acinar formation. The cords and strands are forming a more or less alveolar pattern. At still higher magnification it is evident that the nuclei are malignant with variable thickness of nuclear membranes and chromatin tending to clump toward the nuclear margins leaving empty spaces filled with nucleoplasm centrally. One lymph node was involved by tumor.

One of the four lymph nodes removed from the axilla in the spring of 1959 reveals that the entire lymph node is replaced by tumor which is extremely fibrotic and resembles the original sections only in the peripheral sinuses of the lymph node. This bears out the axiom that it is difficult to predict what appearance the primary tumor had from an examination of a metastasis.

Dr. Friesen: Were any of those tumor cells in lymphatic vessels?

Dr. Boley: The peripheral sinus of this lymph node was filled with tumor.

Dr. Friesen: Does that peripheral sinus of the lymph node communicate with a lymphatic coming from the breast?

Dr. Boley: Yes. Often the diagnosis of metastatic

tumor involving a lymph node is made when only a small nest of tumor cells is present in the peripheral sinus.

We show a section of skin removed at the time of the last operative procedure only to demonstrate the evidence of irradiation therapy. The surface epithelium is flattened and the rete pegs are markedly shortened and almost absent. There is hyperkeratosis on the surface. In the upper corium dilated lymph vessels can be seen (lymphangiectasis). There is sparsity of nuclei in the stroma and a few fibroblast nuclei are large and smudgy. A few adipose cells present in fibrous tissue represents fibrosis of the subcutaneous area. The skin appendages are absent.

Dr. Friesen: Will anything besides irradiation produce these changes?

Dr. Boley: The radiation scar differs from other scars by the presence of the large and abnormal (smudgy) fibroblast nuclei which we have demonstrated here. These are said to be characteristic of irradiation damage.

Other sections of skin show nests of tumor deep in the subcutaneous tissue and also in the fibrotic corium.

Dr. Friesen: Are these tumor cells located in lymphatics?

Dr. Boley: No, these tumor cells are in tissue spaces.

This has been irradiated and we can see some of the effects here and yet the tumor is viable. Sections of the ulcer site show dead and dying tumor cells in the ulcer base and the effects of irradiation.

Dr. Friesen: Are tumor cells visible in lymphatics in these sections?

Dr. Boley: No, the tumor cells are present in the tissue spaces.

Dr. Friesen: What distinguishes these spaces from lymphatic spaces?

Dr. Boley: When tumor is present in lymphatics the tumor cells tend to pull away from the lymphatic wall during the process of fixation and the tumor cells then appear as small nests surrounded by a space which has an endothelial lining. The endothelial nuclei are readily visible along the wall of the lymphatic channel and cannot be demonstrated in any of these spaces we are viewing here.

In summary we would consider this an ordinary (Stage II) breast carcinoma with axillary lymph node involvement demonstrated at the time of original mastectomy. Lymph node recurrence was demonstrated two years later. Subsequently, there has been local skin involvement with tumor of similar appearance in the base of the irradiation ulcer.

Dr. Friesen: What do you think the incidence of recurrence in the skin is, Dr. Boley?

Dr. Boley: Local recurrence is reported as 10 to

30 per cent.¹ The most common metastatic tumor to the skin in the female is carcinoma of the breast.² Of course, breast carcinoma is the most common tumor of women. In Gates' paper distant metastases and not skin involvement around the operative site were considered. I do not think local recurrences are as frequent now as they used to be.

Dr. Friesen: In this institution, I think surgeons vary in their operative approach. Some remove a considerable amount of skin after which skin grafts are applied and others take less skin, certainly not all the skin of the breast. I really can't speak with the authority of figures but it seems to me that skin recurrence is rather unusual here in this hospital. We occasionally see them here but not nearly as frequently as reported in the literature.

Dr. Tice: I am treating four patients with skin metastases at the present time.

Dr. Friesen: The incidence of skin metastases here is ten per cent, but the incidence is often quoted in the literature as being higher.

Dr. Boley: It would seem that when skin recurrences are present a skin lymphatic must have been cut across at the time of surgery and the wound contaminated by tumor cells.³

Dr. Friesen: In the usual mastectomy procedure the skin flaps are developed and the underlying breast, pectoral musculature, and axillary contents are excised. The skin flaps are then laid down on the chest wall and the two flaps are sewed together. It seems to me that if these tumors are recurring locally from tumor cells that have been cut across, spilled or seeded by instrument contamination, the recurrences would be under the skin and not within the skin. Now the recurrences I have seen in the skin have been intradermal or almost epidermal, in a region where an incision or instrumentation has not occurred. This suggests to me that the recurrences are from cancer cells that were originally in lymphatics and the only way to prevent this is to widely excise the skin around the breast and graft the area. Although this tumor, I think, recurred in the incision line, I don't see this occurring nearly as frequently as I see nodules of recurrent tumor in the skin far removed from the lines of incision.

Dr. Boley: A case is reported in the literature in which a solitary skin metastasis occurred at the superior lateral end of incision over the deltoid following a radical mastectomy.

Dr. Friesen: That sounds like a cell that was implanted then, doesn't it? Do you have something to add Dr. Robinson?

Dr. David Robinson (Plastic Surgeon): About 70 years ago Halstead reported his large series. He had about the best mortality statistics that anybody

had had up to that time, and he skin grafted after wide excision.

Dr. Friesen: Dr. Robinson, how do you think these metastases get into the skin?

Dr. Robinson: It is my opinion that the tumor spreads in the lymphatics that are already in existence there and the tumor cells are present in the lymphatics at the time of the original surgery. We know the subdermal lymphatics are present and could easily account for lymphatic spread by this manner. However, I cannot discount what Dr. Boley just said concerning the possibility that tumor may be seeded in this region when the tumor tissue is cut across at operation.

Dr. Friesen: Dr. Tice, are these skin lymphatics irradiated at the time of irradiation therapy?

Dr. Tice: We routinely irradiate the chest wall with ortho voltage and the lymph nodes, axillary, mediastinal and supraclavicular, with Cobalt therapy.

Dr. Friesen: Do you think this ulcer was secondary to the radiation therapy or secondary to the recurrent tumor?

Dr. Tice: I thought it was secondary to the effects of irradiation. I would like to make a comment regarding therapy of breast cancer at this time, if I may. When skin metastasis is present the radiologist has a tremendous responsibility. It is hoped that just enough radiation may be given to destroy tumor permanently and not damage skin. This is too often not accomplished. If there is development of an ulcer, the radiologist should not be criticized and accused of an "x-ray burn." If the tumor is destroyed, that is the desired result. A plastic surgeon can remove the destroyed skin and replace it with a graft. There must always be close teamwork between the surgeon and the radiologist in treating cancer. Too often the radiologist tries to play safe by avoiding an excessive skin reaction and in so doing he fails to cure cancer.

Dr. Friesen: I think one of the reasons it is difficult to make decisions about choice of therapy is that this is not too well understood. Generally speaking it is true that the younger person is given testosterone if there are recurrences, and the older person, the five-year postmenopausal woman, is given estrogen. The bulk of the evidence is against estrogens although we have seen improvement with the administration of one or both of these hormones. However, it is certainly dangerous to give estrogens to the premenopausal woman and some people think that this is true in the postmenopausal woman. Why estrogen works, I don't know unless it suppresses pituitary control of ovarian function.

Dr. Robinson: It certainly sounds contradictory to me that we should remove the ovaries and then administer estrogens.

Dr. Friesen: Yes, however some surgeons are

even advocating this for the postmenopausal woman because one can find minimal estrogen activity at these later ages.

Dr. Robinson: Other surgeons have taken out some other interesting organs. The adrenal gland and the hypophysis have been removed.

Dr. Friesen: Surgical ablation of endocrine organs produces a remission in approximately 40-50 per cent of the patients who have diffuse metastases, when the metastases are too generalized to be irradiated for instance. Furthermore, there is quite a controversy among surgeons as to whether adrenalectomy or hypophysectomy should be done. Some say it is easier to take care of a hypophysectomized patient and others say it is easier to take care of an adrenalectomized patient, both require constant attention. The rate of remission following ovariectomy alone is approximately 40 per cent, indicating that 60 per cent don't have benefit.

Dr. Simons: In regard to surgical treatment of local recurrences, there are four major surgical procedures that may be utilized. If a block resection must be done, including ribs and possibly portions of the pleura, the tissues often have poor healing qualities and a skin graft will not take over this area. So, to cover this area where the block resection has been carried out, it is sometimes necessary to swing a pedicle down from above and cover the region from which the pedicle was removed by a skin graft as was done in this case. A second method is a tubed pedicle, brought from a distance in multiple stages. The multiplicity of delays and resultant multiple hospital admissions make this method of repair unpopular with most patients. A third method which Dr. Pickerill⁴ has utilized is to do the block resection and merely cover the pleura or exposed tissues with a skin graft leaving no bony support beneath. A fourth procedure is to undermine the opposite breast, especially if it happens to be pendulous, and swing it over to cover a more medial defect. We have utilized this procedure here but it has not been too successful since we apparently destroy more of the blood supply than is supposed along the medial aspect of the breast, and this results in an ulcer at this site which must be covered with a skin graft.

I have a question that I would like to ask Dr. Boley. He mentioned that this was an ordinary carcinoma of the breast and most authors mention scirrhous carcinoma as being the most common type of mammary carcinoma. I wonder if this is what Dr. Boley was referring to?

Dr. Boley: Yes, this was a scirrhous carcinoma, the type of malignant tumor seen in approximately 70 per cent of breast carcinomas.

Dr. Simons: I have one last point I would like to make. Breast carcinoma is often considered to be

hopeless. Dr. Clagett⁵ has recently published a large series of patients with breast carcinoma in which the five-year survival was 65 per cent in more recent years. Those patients with metastatic tumor in lymph nodes had a survival of 46 per cent and those patients in which no lymph node metastases were found had a five-year survival of 83 per cent. In women of the same age without tumor, the expected five-year survival was 92 per cent. This would indicate that with proper treatment, which Dr. Clagett feels is radical mastectomy, the survival rate is high, especially in those patients with no lymph node metastases.

Dr. Boley: These are similar to figures that have been published from Memorial Hospital. There is one additional point, however, the ten-year follow-up reveals that some of the patients surviving the first five years have died of their malignant disease in the second five years.

Dr. Simons: The only reason I brought this up was that Dr. MacWhirter in Scotland has had a very profound influence on the treatment of carcinoma of the breast in that he stated some 15 years ago that irradiation therapy with simple mastectomy was almost as good as radical mastectomy in treatment of this disease. I really don't think that irradiation with simple mastectomy is as good as radical mastectomy and I think there is a general feeling among radiologists in this country that radical mastectomy offers the best hope for cure.

Dr. Robinson: I would like to say one additional word about local recurrence. Once a local recurrence is present, the outlook becomes rather gloomy and after one recurrence is present, additional ones are likely to appear.

Dr. Friesen: Yes, I would agree with this. When one skin nodule occurs, others are likely to appear in other areas around the mastectomy site. In summary, this patient has no distant metastases, that is to lung, brain or adrenal but as indicated in this discussion, these local recurrences are extremely diffi-

cult to manage clinically. Almost everyone has abandoned the extended mastectomy approach with resection of lymph nodes along the internal mammary chain. A great deal was learned from this procedure, particularly in relationship to those cancers occurring in the medial quadrants of the breast. In tumors occurring in the medial quadrants of the breast, the metastases occur along the lymph nodes adjacent to the internal mammary vessels and the presence of metastases to these sites was learned through the performance of the so-called super-radical operation. I recently looked up the figures comparing simple mastectomy with irradiation and radical mastectomy and the results are surprisingly similar. Fifty-five per cent five-year survivals can be reported for almost any type of therapeutic procedure utilized. This figure of 55 per cent is almost a magic number, for those patients who have treatment. Of all patients, some of which don't have treatment, the overall results are not as good as 55 per cent five-year survival. The figure that Dr. Simons quoted of 46 per cent five-year survival in the presence of lymph node metastases is the highest that I have seen. Not many years ago, the five-year survival rate for radical mastectomy with the presence of lymph node metastases was 22 per cent, or two or three per cent better than for those patients who refused treatment. Thus, early diagnosis with prompt treatment seems to be the most important factor in determining the chances of five-year survival.

References

1. White, W. C.: The problem of local recurrence after radical mastectomy for carcinoma. *Surgery*, 19:149-153, 1946.
2. Gates, O.: Cutaneous metastasis of malignant disease. *Am. J. Cancer*, 30:718-730, 1937.
3. Smith, R. R. and Malmgren, R. A.: Cancer-cell wound seeding in surgery: A review. *CA*, 14:90, 1964.
4. Pickerill, H. P.: Plastic surgery in the treatment of malignancy. *Brit. J. of Plastic Surgery*, 1:181-186, 1948-49.
5. Clagett, O. T.: The treatment of carcinoma of the breast: A controversial subject. *Missouri Medicine*, 59:25-30, 1962.

WANTED: LESS HASTE IN LAWMAKING

Although there may be a need for controlling false claims for medical devices, one might well hope that the haste which resulted in the new laws and regulations about drugs will not serve as a pattern for legislation related to physical devices. The drug controls, in many respects, appear to go far beyond what is necessary to ensure reasonable safety. Surely, in the final drafting of bills on medical devices, experts in the industry as well as university researchers should be given full opportunity to make available their knowledge and experience.—Morris Fishbein, M.D., in *Medical World News*, 6:6 (Feb. 19), 1965.

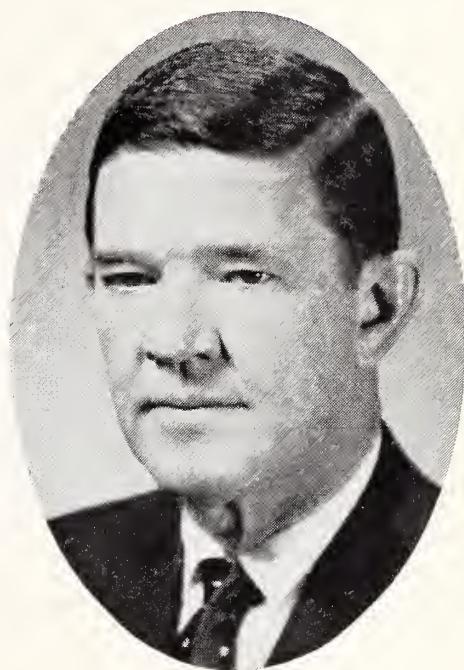
The President's Message

DEAR DOCTOR:

Another annual session has come and gone, signaling the beginning of a new year for the Kansas Medical Society. The Society is most grateful to the Reno County Society for a very successful meeting.

1965 and 1966 promise to be crucial years for not only Kansas Medicine, but for Medicine in America. In Kansas we are threatened with a Health and Welfare Board, and nationally, with the closest situation to Socialization that we have yet faced. Only by complete unity among ourselves in the belief that Medicine must be kept free for the best health care of our patients can we endure.

Let's all roll up our sleeves and go to work. May unity be our by-word.



Sincerely,

George Burkett, Jr., M.D.

President



HR 6675

As this is written HR 6675, having passed the House, is in the Senate Finance Committee. It is now vulnerable to amendments which might alter its content. But, most experts concede some health benefits to the aged will be provided under Social Security. Their deduction is based on the simple fact that a majority of the Congress campaigned on this promise.

If the bill in its final form includes the payment of hospital costs, the question then arises as to the services of anesthesiology, pathology, physiatry and radiology rendered by physicians to hospitalized patients. The House removed these from hospital benefits, but at this moment the American Hospital Association and the National Blue Cross Association are striving to place them in again. The Kansas Hospital Association and the Kansas Blue Cross Board both officially endorsed the position of their national bodies. The Kansas Medical Society passed resolutions during the recent Hutchinson meeting opposing the payment of physicians' services as hospital benefits.

Medicine contends that the specialties of anesthesiology, pathology, physiatry and radiology are the practice of medicine. The work of these physicians, although often performed in the hospital, are no more hospital services than is the hospital practice of the surgeon and the obstetrician. In all instances there is a direct hospital cost of space, equipment and of hospital employed personnel. These can be clearly distinguished from physicians' services, and surely their separation is no barrier of magnitude in spite of contractual arrangements that might currently exist.

On its surface, there can be no logical basis for the current opposition by hospitals and Blue Cross to the position of medicine. To understand this problem, since neither Blue Cross nor the hospitals elect to state it clearly, one must search for clues. A few are visible.

The Hospital Association testified before the Senate Finance Committee that the hospital is the center of health care in the community. A hospital is an in-

stitution to which the physician takes his patient and in which he performs professional services and directs care to be given by hospital employees. To make it the provider of health care a hospital must employ and direct those who perform services in the hospital.

Do they mean to do this? Their contention would place 15 per cent of the medical profession in their employment now and by just that much they would thereby become the center of health care. After 15 per cent of the physicians of America are hospital employees, how long before other specialties will be added?

A second clue may be found in their anxiety for guaranteed payment. Custom has permitted some hospitals to disguise true cost distribution through the luxury of profitable laboratory and x-ray departments. As guaranteed payment for a sizeable portion of their guests appears within grasp it is understandable they will press to accomplish this fact, and have in effect elected to do so regardless of whatever else this course may involve.

Physicians have always given priority to hospital payment and cite the welfare program as just one example. Their position is unchanged here. Hospitals should receive full payment for their total costs under HR 6675 too, and medicine continues to exert its total influence toward this end. There is no barrier to prevent the honest separation of hospital cost from physician's fees in the specialties mentioned. The hospital expense should be paid from hospital funds. Medicine will strive for this as diligently as it will oppose the payment of physician services through hospital funds.

So again, this poses no logical problem unless you add to the previous suspicion, that of hospital desire to employ physicians, the additional thought that the hospital makes a profit from professional services.

Clue number three may be the most accurate available to medicine at the present time. Regardless of why spokesmen in these national associations testified as they did, they might easily have permitted the im-

pression to filter down to the trustees of hospitals that unless local support was obtained the hospital would lose its laboratory and x-ray income. The thought of such disaster would bring quick support, and it might be suspected from information available at this time that such was the case.

Only the physician can explain this is not true. Only he can prove this by showing in explicit detail how the separation of professional service from hospital service can be accomplished. Nor is this the obligation of the pathologist or the radiologist or the physical therapist or the anesthesiologist only. This is so obviously the problem of every physician who serves on a hospital staff that it does not need to be cited.

But, unless he accepts his personal responsibility who will do it for him? Unless he does so now when will he have a future opportunity? And finally, what else can a physician think of which he might do that is more vital than this in his effort to retain the private practice of medicine?

When the trustees and the administrators understand this problem, and realize medicine will support their stand for guaranteed hospital payment and when they see the future hazards of the position taken by their national association they will agree with you. Today you may still succeed in your endeavor. Once HR 6675 is passed, the most agitated hospital trustee will then be as helpless in his anguish as the physician.

Sterilization

The 1965 Kansas Legislature repealed sections 76-149 to 76-155 of the Kansas Statutes Annotated

which restricted the performance of sterilization operations. The repeal becomes effective on July 1, 1965.

Since 1917 there has been on the statutes in this state the description of a procedure whereby a vasectomy or asexualization of the male, and a salpingectomy or oophorectomy of the female may be performed on inmates of state institutes.

The law then states: "Except as authorized by this act, every person who shall perform, encourage, assist in or otherwise promote the performance of either of the operations described in this act, for the purpose of destroying the power to procreate the human species, unless the same shall be a medical necessity, shall be fined not less than \$100 nor more than \$500 and imprisoned in the county jail not less than six months nor exceeding one year."

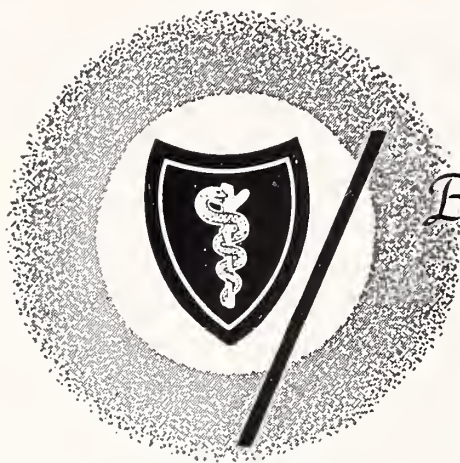
After July 1 this is no longer in effect and thereby the specific legal prohibitions against sterilization operations are removed.

You will not need to be reminded that the performance of such surgery presents risks beyond those that may be encountered where surgery is for "a medical necessity." There are cases on record where the patients later changed their minds claiming authorization was given under duress or that they were, at that time, incapable of a clear decision. Other cases record trials for breach of contract where the operation allegedly did not render the patient sterile.

Every physician who will not accede to his patient's request for sterilization will wish to make certain his position is clearly protected against future unpleasantness by obtaining legal advice on a proper authorization form for the patient and the spouse to sign.

GALLEY PROOF CORRECTIONS

There is sometimes a misunderstanding about changes in an article on the galley proofs and the reluctance of the JOURNAL to make extensive alterations. The reason for this is quite simple and easily understood when one knows all the facts. The article has already been set in type. To make extensive changes requires that the typesetting be done over, at an additional cost which may even exceed the original, because it is slower work to fit pieces together than to set an entire article in type. It is also obvious, when one stops to think about it, that an alteration in the first few lines of a paragraph will probably make it necessary to reset the entire paragraph. This, of course, increases greatly the cost of printing and should be avoided as much as possible. The galley proof is for correction of *errors*, and a rewriting of the article should be done on the original copy before it is submitted for publication.



Blue Shield

Blue Shield's Viewpoints on Future Goals

The following article is composed of the text of the Blue Shield staff presentation on Future Goals of the Plan as presented to the Society's Committee on Blue Shield Relations at its April 11 meeting in Wichita, Kansas. There appeared to be sufficient interest in this presentation to warrant its being distributed to the attention of all Kansas physicians.

With the advent of Social Security medicine for the aged, it becomes increasingly important that Blue Shield re-evaluate where it stands today, and where it needs to go.

Blue Shield believes it still serves as the "Doctor's Plan." Blue Shield feels that most physicians expect it to continue to play this role. If this is to be realized, Blue Shield's primary purpose must be kept before the Doctors of Medicine who direct its progress.

What is this primary purpose? Blue Shield conceives its basic responsibility within the following definition . . .

To be an instrument through which Medicine may preserve the economic system under which it can best serve the public . . . voluntary medical care within free enterprise.

More so than ever, fulfilling this purpose is a challenge. Today's basic objective in the fulfillment of this purpose should be *to enroll more people and to retain them as satisfied subscribers*. In so doing, Blue Shield and organized medicine can demonstrate the advantages of non-profit, voluntary prepayment as the most effective answer to public health care needs to more people with an eye to securing the public support necessary to forestall expansion of Social Security principles as a solution to financing health care.

Obtaining a basic objective of enrolling more people and retaining them means that a better product must be produced. Programs must be developed which satisfy two things that people need . . . want . . . and feel they aren't presently getting:

- (1) Better predictability within that which is covered.
- (2) A broader scope of services which are covered.

The major public interest lies in better predictability. What does this mean? It means that people want coverage which consistently performs according to a definite level of expectation. Most people want full predictability, but some categories of the market have other expectations. Here are the three categories into which the market can be subdivided—

- (1) *Persons Wanting Full Predictability (Paid-in-Full Benefits)*.

The majority of people want it and are willing to pay for it. Blue Shield does not at present have a widely accepted program that delivers it.

- (2) *Persons Who Want a Predictably High Percentage of Coverage*.

A certain segment is interested in prepaying 75 to 80 per cent of the charges for covered services.

Blue Shield does not have a widely available plan which can perform in this manner.

- (3) *The Few Who Want a "Good" Economy Plan*.

This type of program continues to appeal to the cost-conscious individual and—as well—should, ideally, continue to be available to the genuinely low income

family. Such a program would be able to defray approximately 50-60 per cent of medical costs for those who want to buy minimum protection or whose means are limited.

Blue Shield can provide only a facsimile of this type of predictability within its present Schedule 1 and 2 programs. These plans lack consistency in the level of their performance and possess many inequities. While some specific items may be quite adequately covered, others fall below even minimal expectations.

It might be reasoned that the knowledge of what people want in the way of medical-surgical prepayment would be all that was necessary toward delivering the coverage needed. But it isn't that simple. The problem in delivering is **KNOWING HOW TO PAY DOCTORS WITHOUT . . .**

—"Fixing Fees."

—"Inflating Costs of Medical Care."

—"Interfering With Professional Practice."

If Blue Shield—working with physicians—can develop the means to do this there would be no problem in producing a product that a greater percentage of the market would buy.

Some progress has been made in defining ways that won't work. Here are two known facts:

—**INDEMNITIES WON'T WORK**—the Indemnity Plan (which features stated allowances toward the cost of services without any service benefit criteria) won't work for the following reasons:

(1) There is no "guarantee" of predictability.
 (2) If indemnity allowances are set too high, inflationary costs sometimes occur. It is generally agreed that the stated indemnity becomes a minimum, not a maximum, charge.

(3) Coverage decreases as overall charge levels increase. In an inflating economy, the need to raise professional fees occurs from time to time. When this happens, set allowances become increasingly inadequate.

(4) The principle of indemnity programs in Blue Shield would tend to reduce physician motivation for Plan leadership.

—**FEE SCHEDULES WITH INCOME LIMITS WON'T WORK**—This is the present structure under which the Schedule 1 and 2 programs have been designed. The problems that are found within this method include the following:

(1) For subscribers with income above the service benefits limits, the plan functions as merely an indemnity program with the same weaknesses discussed above.

(2) If income limit sought is high enough to include a relatively large portion of the physician's practice, the allowances resulting tend to "set" fees.

(3) If a lower income limit results as a compromise to this "fee setting" aspect, predictability of coverage is lost to many persons.

(4) It is hard to revise income limits and allowances as the need arises. This is true because an effective program requires that they be correlated at all times.

(5) When the allowances within the fee schedule are related to conversion factors applied to relativity scales, inequities within the scale used are translated to inequities within the fee schedule which results.

If these methods of delivering better predictability and paying professional charges won't work . . . what will?

Blue Shield is currently studying two ways that might work—(1) Paying usual and customary charges in the manner of the experimental Riley-Geary Special Service Plan, (2) Paying according to the Prevailing Professional Fees Concept, now being considered at the National Blue Shield level.

THE SPECIAL SERVICE OR "PAY-CHARGES" APPROACH—Physicians agree to make the same charge to Blue Shield subscribers as made for like services to other patients within their practice. They also agree to accept adjudication of a Special Review Committee of local physicians in unusual cases. The Special Review Committee establishes guide rules under which cases may be routinely paid and considers exceptions. Non-participating physicians are reimbursed the average charge allowed participating physicians, but the payment goes to the subscriber.

—Advantages:

Everyone is guaranteed predictability on a "paid in full" basis.

The individual physician sets his personal fee.

The plan is flexible relative to changes in the economy.

The question of income is no longer involved in the physician-patient insurance relationship.

The plan is compatible with any reasonable method of determining individual professional charges.

—Disadvantages:

Professional adjudication of unusual and excessive charges is an essential requirement of such a program.

The plan could be abused by "creeping up" on charges.

An inflating economy means rising rates. Rates would increase in proportion to medical care indices.

If trends were upward over a long period of time, yearly rate increases would be expected.

THE PREVAILING FEES CONCEPT—Physicians would submit personal fee schedules. A "range of fees" would be established (probably by area) to include a very high percentage of the medical community. Individual physicians with a schedule of charges falling within this range would be considered participating physicians and would be paid according to their previously filed fee schedules. Physicians

would agree to maintain their current charges for a stated period of time after which they could notify Blue Shield of any increase in their charges. Non-participating physicians would be covered on an indemnity schedule of stated allowances with payments made to the subscriber and would be free to bill patients for any differences between allowances and their personal charge for a service.

—Advantages:

Predictability would be available when services were obtained from the vast majority of physicians.

Participating physicians would be able to set their own fees.

Latitude for individual fee revisions would be available.

The role of professional adjudication committees would be greatly minimized.

The program would be compatible with any reasonable method of determining individual charges, and unrelated to patient's income.

—Disadvantages:

Blue Shield participation by a small minority of physicians would be ruled out.

Certain specialties might have a relatively high percentage of nonparticipation.

Area differentials in the "range of acceptability" conceivably might create inequities in individual eligibility for participation. This is to say that an individual physician charging a given amount for a service in one area might be accepted for participation within that area, whereas a colleague—with the same charge—practicing in a different area could be excluded from eligibility if the prevailing range were below his personal charge.

Blue Shield is currently evaluating the respective merits of these methods for paying professional fees. In so doing, the opinion of the medical profession itself will be sought and most carefully considered. Other alternatives may originate through cooperative study. The basic goal is to find the *best* way to pay professional charges, both in full and by a stated percentage of charges. When an acceptable method is determined, the following structure for Blue Shield programs could be realized:

A FORMAT FOR THE FUTURE

—A Plan which pays the doctor's charge in full.

—A Plan which pays a high and predictable percentage of the doctor's charge (80 per cent is presently being used in the Riley-Geary experiment).

—A Low Option alternative, with solid predictability, which—

Would offer a consistent percentage toward professional charges for those wishing minimal insurance (e.g., 60 per cent of charges).

Could be adapted to full coverage for indigent or extremely low-income persons through means of a fee schedule derived from 60 per cent of average statewide charges applied to a low income limit (e.g., \$4,000.00).

What about the other major Blue Shield product objective . . . a broader scope of services which *are* covered?

Although the major concern is developing better vertical predictability within that which is now available through Blue Shield, the problem of meeting public expectations for a broader scope of coverage remains an important consideration toward which Blue Shield looks to physicians for help in answering.

What changes in the present scope of Blue Shield benefits are needed to do a better job in the prepayment of medical care? Some of the questions that must be considered by Blue Shield and physicians are the following:

SHOULD BLUE SHIELD—

Add diagnostic lab and x-ray benefits to basic contracts?

Provide differentials for "itinerant surgery"?

Recognize specialist differentials?

Expand psychiatric benefits?

Add pediatric benefits?

Cover OB anesthesia?

Include full term obstetrics on a Service Benefit basis?

Pay for: Cosmetic Surgery? Chemo-Electrosurgery?

Removal of Warts? Home and Office Calls?

These are but some of the questions. There are many more.

The final answers depend upon whether physicians are willing to work with Blue Shield staff in developing plans which experiment with new ways to pay professional charges and wider benefit scopes. The extent to which this can be accomplished will depend to a large degree upon the extent to which local societies, specialty associations, and individual physicians take the lead in directing Blue Shield's efforts to meet public expectations for a meaningful "Doctor's Plan."

NEW MEMBERS

The JOURNAL takes this opportunity to welcome these new members into the Kansas Medical Society.

Clifton P. Arnold
Valley Falls, Kansas

Alexander R. Chalian
2648 Minnesota Avenue
Kansas City, Kansas

James M. Baehr
3244 East Douglas
Wichita, Kansas

H. Ivor Jones
7939 Floyd
Overland Park, Kansas

Clayton E. Buhl
3244 East Douglas
Wichita, Kansas

Jesse H. Marymont
505 North Hillside
Wichita, Kansas



Personalities—IN KANSAS MEDICINE

Dr. and Mrs. Jack Schroll, Hutchinson, recently returned from a three-week trip to California and Hawaii. Dr. Schroll attended the meeting of the American College of Gynecology and Obstetrics in San Francisco, and the meeting of the Hawaiian section of the college in Honolulu. **Eldon Rich**, Newton, and **Norvan D. Harris**, Liberal, also attended the meeting in San Francisco.

Robert L. Kasha, Wichita, has been awarded a fellowship in the International College of Surgeons. The degree was conferred at the college's annual meeting held in Las Vegas in April.

The Kansas Board of Regents has announced the creation of a Department of Anesthesiology at the University of Kansas Medical Center, effective July 1. **Ray T. Parmley**, Wichita, has been named chairman of the new department.

Two Halstead physicians, **Eugene M. Malone** and **Robert P. Stoffer**, were recently designated Fellows of the American College of Physicians.

Carl Tompkins, Newton, was elected chairman of the Kansas Health Officers Association at their meeting held in Topeka in April. Dr. Tompkins is health officer for Harvey County.

C. H. Benage, Pittsburg, has been reappointed to the committee on nursing of the A.M.A.

Forrest D. Taylor has moved from Clay Center to Denver, where he has accepted a staff position at the Fitzsimons Army General Hospital.

Cooperation between doctors and clergymen in patient care was emphasized at a recent meeting of the two groups at the Labette County Medical Center in Parsons. Panelists included **John P. White** and **Earl A. Martin**, both of Parsons, and **Arthur P. Burgess** of Oswego. **I. Joseph Waxse**, Oswego, served as moderator.

Michael J. Cox, Dodge City, was elected district governor of Rotary District 569 during the annual district conference held in Pratt in April.

Among those from Kansas who attended the meeting of the American Academy of General Practice in San Francisco were **Dr. and Mrs. M. A. Brewer** of Ulysses, and **Millard E. Schulz** of Russell.

M. E. Nunemaker, Hutchinson, has been appointed county health officer by the Reno County Commission.

Members of the Great Bend Chamber of Commerce Ambassador Club presented a plaque to **Clark Zugg** in honor of his long membership in the organization. Dr. Zugg has been a member of the Chamber since 1921.

Panelists participating in the discussion of problems in community health at a session of the Kansas Public Health Association's meeting in Topeka included **John C. Mitchell**, Salina, and **Robert C. Polson**, Great Bend.

Robert G. Menninger, Topeka; **Donald C. Greaves**, Kansas City; **Robert A. Haines**, Topeka;

(Continued on page 311)



Along The BOOKSHELF

Clendening Medical Library

Recent Acquisitions

- Abdellah, F. G. and Levine, Eugene. Patients and personnel speak, a method of studying patient care in hospitals. 2d ed. U. S. Public Health Service, Division of Nursing, 1964.
- American Psychopathological Association. The evaluation of psychiatric treatment; the proceedings of the Fifty-second Annual Meeting. Grune & Stratton, 1964.
- Brazier, M. A. B., ed. Brain function; proceedings of the first conference, 1961; cortical excitability and steady potentials; relations of basic research to space biology. Univ. California, 1963.
- Bronowski, Jacob. Insight. Harper & Row, 1964.
- Butterworth, Thomas. Manual of dermatologic syndromes. McGraw-Hill, 1964.
- Child, C. G. The liver and portal hypertension. Saunders, 1964.
- Christopher, Frederick. Textbook of surgery, ed. by Loyal Davis, 8th ed. Saunders, 1964.
- Cooper, Philip, ed. The craft of surgery. Little, Brown, 1964.
- Cutter, I. S. and Viets, H. R. A short history of midwifery. Saunders, 1964.
- David, Heinz. Submicroscopic ortho- and pathomorphology of the liver. Macmillan, 1964.
- Dewald, P. A. Psychotherapy, a dynamic approach. Basic Books, 1964.
- Ewing, Sir A. W. G. and Ewing, E. C. Teaching deaf children to talk. Volta Bureau, 1964.
- Gairdner, Douglas, ed. Recent advances in paediatrics. 3d ed. Churchill, 1965.
- Gelfand, Michael. Medicine and custom in Africa. Livingstone, 1964.
- Gordon, Douglas, ed. Ultrasound as a diagnostic and surgical tool. Williams & Wilkins, 1964.
- Grollman, Arthur. Pharmacology and therapeutics . . . 6th ed. Lea & Febiger, 1965.
- Hardy, J. D., ed. Physiological problems in space exploration. Thomas, 1964.
- Hazard, J. B., and Smith, D. E., eds. The thyroid. Williams & Wilkins, 1964.
- Hermann, H. X. and Mornex, René. Human tumours secreting catecholamines . . . Pergamon, 1964.
- Hoffman, M. L. and Hoffman, L. W., eds. Review of child development research, v. 1. Russell Sage Found., 1964.
- International Congress on Hormonal Steroids. 1st, Milan, Italy. Hormonal steroids . . . Proceedings, v. 1. Academic, 1964.
- International Symposium on the Structure and Metabolism of the Pancreatic Islets. Uppsala and Stockholm, 1963. Proceedings . . . Pergamon, 1964.
- Joint Information Service of the American Psychiatric Association and the National Association for Mental Health. The community mental health center: an analysis of existing models. 1964.
- Krantz, J. C. and Carr, C. J. The pharmacologic principles of medical practice . . . 6th ed. Williams & Wilkins, 1965.
- Leavitt, H. J. Managerial psychology . . . 2d ed. Univ. Chicago, 1964.
- Lurie, M. B. Resistance to tuberculosis . . . Harvard Univ., 1964.
- McKay, D. G. Disseminated intravascular coagulation . . . Harper & Row, 1965.
- Madsen, C. M. Hirschprung's disease . . . Thomas, 1964.
- Modern trends in immunology, 1st series. Butterworths, 1963.
- Myklebust, H. R. The psychology of deafness . . . 2d ed. Grune & Stratton, 1964.
- National Research Council. Food and Nutrition Board. Recommended dietary allowances, 6th rev. ed. N.A.S.-N.R.C., 1964.



Book REVIEWS

THE PROSPECT OF IMMORTALITY, by Robert C. W. Ettinger, Doubleday & Co., Inc., Garden City, New York, 1964. 190 p. \$3.95.

In this day and age when many medical "discoveries" are press released to lay journalists long before they reach the pages of medical journals, it is not surprising to find the man on the street with exaggerated ideas of what medical science can accomplish. The volume described here seems to be an inordinate extrapolation of such current tendencies. It is really difficult to decide how seriously it should be taken. It is not really exciting enough to be good science fiction. Whether intentional or not, many passages in it form a rather bizarre commentary on our present society, reminiscent of Swift's "A Modest Proposal." Since, however, it was submitted by the publishers to a medical journal for review, I must assume that at least somebody has taken it seriously.

The author's thesis very simply is that since deep freezing brings the spinach in tip-top shape from the farm to the table and since various pieces of animal tissue have been preserved at subzero temperature for varying lengths of time, it should be a simple matter to deep freeze whole, human bodies and ultimately find some way to thaw and revive them. As a corollary thesis, he assumes that "Science" will, in due time, be able to remedy any and all ills and therefore the wisest thing for us mortals in the 20th Century is to make every effort to have ourselves thoroughly frozen so that in due time our descendents can revive us and patch us up for an endless continuation of our existence (assuming that they would want us). This idea is elaborated along with some hasty consideration of possible psychologic, sociologic, economic, etc., complications which might occur.

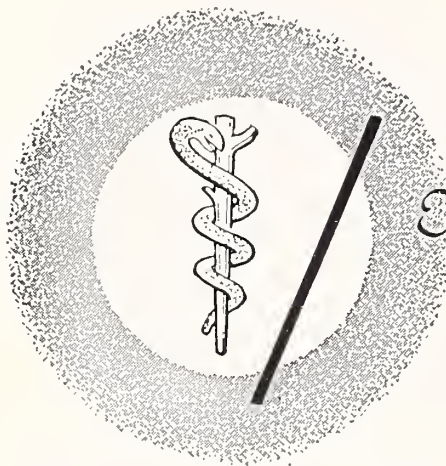
Mr. Ettinger, who is described on the jacket as a college physics instructor, has drawn on almost every conceivable convenient source for references to bolster his arguments, the *Detroit Free Press* and various science for the layman volumes being particularly fre-

quent. A good part of the book is devoted to demolishing rather obvious obstacles to his program by very sketchy rebuttals, usually to the effect that somebody in the future will figure out a way. He implies that the "somebody" will be self-reproducing, thinking, electronic brains, though one wonders why such machines would want any humans around, let alone try to revive them.

On the whole, it seems odd that anyone would want to read this book except for idle amusement. I certainly could not recommend that any physician spend \$3.95 for it, let alone accumulate the \$8,500 trust fund which Mr. Ettinger feels will be adequate to maintain your own private deep freeze *ad infinitum*. The reviewer's copy will be deposited in the Stormont Medical Library, curiosa section, for any who may wish to view it.—J.E.S.

PHYSICAL EXAMINATION OF THE SURGICAL PATIENT, by J. Englebert Dunphy, M.D., and Thomas W. Botsford, M.D. W. B. Saunders Company, Philadelphia, 1964. 396 pages illustrated. \$8.50.

The authors state that the book is designed to focus attention on the methods and importance of eliciting physical signs in surgical conditions. They point out that it is a guide for the student to the early acquisition of that astuteness and thoroughness so essential to the diagnosis of surgical disorders and for the practitioner a useful reference to refresh his mind in the appraisal of surgical lesions. In this respect the authors appear to carry out their intentions well. The book is rather elementary and necessarily omits any outline of pathology and treatment since these aspects could not be covered in 396 pages which attempt to include diverse systems and conditions. It is suggested that the book might be of value in libraries where students nurses are in training.—R.M.B.



The Kansas Press Looks at Medicine

Editor's Note. In this section the JOURNAL reproduces editorials relating to medicine which have appeared in the lay press. An effort is made to include both favorable and unfavorable comments, and the Editorial Board in no instance assumes responsibility for the opinions expressed.

ANY VOLUNTEERS?

Who wants to staff a hospital? Apparently nobody in western Kansas!

The head of the Kansas Medical Society's committee on emergency medical care delivered a blistering attack on the public's "monumental apathy" toward volunteering for duty in 20 Civil Defense emergency hospitals.

There are six of these fully equipped 200-bed hospitals stored in Hutchinson, Dodge City, Garden City, Russell, Halstead and Plainville. It takes about 315 people to run one of these emergency hospital units, which are worth \$46,000 each.

Apparently, there has been a drive to recruit volunteers to man such emergency units for the welfare of citizens of the areas in which the Civil Defense hospitals are stored. Judging from the committee head's blistering remarks delivered recently, there just aren't enough volunteers and there isn't any indication that Civil Defense needs are going to stir any great rush for duty either.

This is about par for the course. In spite of the world situation today with war in Viet Nam, rebellion and intervention in the Dominican Republic, the Chinese with the atomic bomb and all the rest, Civil Defense isn't as much on the American mind as it was twenty years ago when the threat was not as great.

The committee chairman might have struck on a better rallying point when he mentioned in passing that such units could also be used in case of tornado disasters. The threat of tornado and flood would undoubtedly stir a greater response in this part of the

country than the Civil Defense angle.—*Great Bend Western Kansas Press*, May 14, 1965.

SAVED MILLIONS OF LIVES

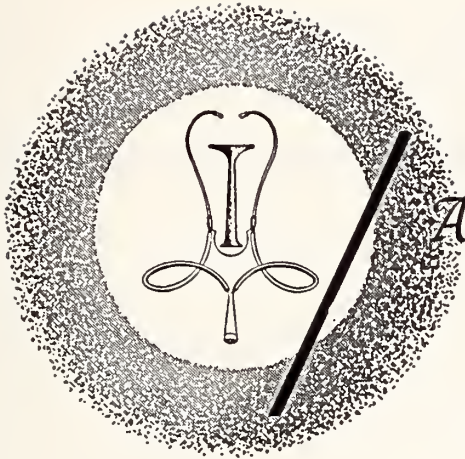
It is interesting to note that fifty years ago, on January 26, 1915, a life-saving medical event occurred. For the first time in the United States, a patient was given a transfusion of citrated blood.

Dr. Richard Lewisohn made this possible. He had discovered that addition of a tiny bit of sodium citrate kept blood from coagulating. Blood not so treated coagulates in less than five minutes outside the body. So, prior to Dr. Lewisohn's discovery, donor and recipient had to be together and to have their blood vessels actually connected. The procedure was difficult and a hospital staff was required.

With citrated blood, which eliminated the need of the donor's presence, came blood banking. It began saving lives during World War I and has been saving them ever since.

Before his death in 1961, Dr. Lewisohn received many awards and one award read: "For distinguished contribution to the field of blood banking in discovering the use of sodium citrate as an anticoagulant which made possible the safe and effective storage of blood and the subsequent development of blood banks; a milestone in the history of medical science which saved countless lives both in war and peace. . . ."

As so often is true, one man and not the mighty of government gives mankind more thoughtful assistance than we can ever repay—and we should be grateful to dedicated medical men.—*Atchison Daily Globe*, January 6, 1965.



Announcements

Professional meetings, conferences, and postgraduate courses of national importance are listed for the DOCTOR'S CALENDAR. Notice of the session is posted in advance to allow the physician time to make preparations.

A 10-day expenses-paid Caribbean vacation for two awaits the doctor who wins the top 1965 *Medical Economics* Award for "the best original article by a physician." Two runners-up will receive cash awards of \$500 each.

Originated in 1956, the magazine's annual awards competition encourages physicians to share professional and personal experiences with their colleagues. This is the first year that a top award other than cash has been offered to supplement regular payment for accepted manuscripts.

The winner can take the winter holiday at any time between next December 1 and March 31, 1966. It includes round-trip air transportation for two to Jamaica, B.W.I., a stay at the luxurious Half Moon Hotel, and such no-cost "extras" as a guided tour of Montego Bay and a flight to Port Antonio followed by a day's rafting down the Rio Grande.

August 31 is the deadline for submissions. Manuscripts, or requests for more information, should be mailed to: Awards Editor, *Medical Economics*, Oradell, New Jersey 07649.

The next scheduled Part I (written) examination, American Board of Obstetrics and Gynecology, will be held at various examining centers in the United States, Canada, and military bases outside of the continental United States, on July 2, 1965.

Applications received for the next Part II examination to be given in Chicago, in April, 1966, will be reviewed by the credentials committee in September and notifications will be mailed to candidates on or about October the first.

The 1965 Bulletin outlining current requirements should be available upon request about July the first. Application forms and bulletins may be obtained by writing the office of the secretary, American Board of Obstetrics and Gynecology, 100 Meadow Road, Buffalo, New York 14216. Applicants are urged to familiarize themselves with the current rules and regulations, particularly in view of the changes in application and examination schedules effective this year.

JUNE

- June 20-24 114th Annual AMA Convention, New York City.
- June 20 7th Annual AMA-ASHA Preconvention Session on School Health, New York City.

July

- July 16-17 Rocky Mountain Cancer Conference, Denver. For Information write E. L. DeWit, 1809 E. 18th Avenue, Denver 80218.

August

- Aug. 6-8 Doctors in Alcoholics Anonymous, Continental Plaza, Chicago. Write: Lewis K. Reed, M.D., 1950 Volney Road, Youngstown, Ohio 44511.
- Aug. 19-21 Rocky Mountain Radiological Society, Denver. Contact: John H. Freed, M.D., 4200 E. 9th Avenue, Denver 80220.
- Aug. 22-27 Flying Physicians Association, Miami Beach, Florida. Write: John C. Chatterton, Albert Carrier, Inc., 332 S. Michigan, Chicago 60604.
- Aug. 22-27 American Academy of Physical Medicine and Rehabilitation, Philadelphia. For information write the academy at 30 N. Michigan, Chicago 60602.
- Aug. 26-28 Three-day course directed to the surgically oriented physician, University of Wisconsin Medical Center, Madison. Write: Paul Knipping, 401 Extension Building, University of Wisconsin, Madison 53706.

POSTGRADUATE COURSES

University of Colorado:

- July 5-8 *Ophthalmology*, Estes Park.
- July 18-24 *11th Annual General Practice Review* (Repetition of January Course).

(Continued on page 311)



JOHN F. COFFMAN, M.D.

Dr. John F. Coffman, 82, died on April 4, 1965, at his home in Wichita. He was born July 1, 1882, in Iowa and came to Wichita in 1920 from Marion, Kansas. He was a graduate of the University of Chicago and received his medical degree from the Ensworth School of Medicine in St. Joseph, Missouri, in 1908. Dr. Coffman was a member of the Masonic Lodge and other fraternal organizations.

Survivors include a son.

DANIEL W. MELTON, M.D.

Dr. Daniel W. Melton, formerly of Preston, died April 19, 1965, at a hospital in Bradenton, Florida, where he had been living since his retirement five years ago. He was 91 years old.

Born November 11, 1873, in Missouri, he began medical practice in Preston in 1906, after graduation from the Ensworth School of Medicine in St. Joseph, Missouri. He was a member of the Masonic Lodge, Order of Eastern Star and American Legion.

He is survived by his wife and two sons.

HERMAN C. SARTORIUS, M.D.

Dr. Herman C. Sartorius, who practiced medicine in Garden City for 34 years, died at St. Catherine Hospital there on April 20, 1965. He was 61 years old.

Born in Eaton, Colorado, on November 7, 1903, he came to Garden City in 1906. He was graduated from the St. Louis School of Medicine in 1929 and after completing his internship in St. Louis returned to Garden City to begin his practice. He was active in civic affairs and a member of a number of civic organizations.

Dr. Sartorius is survived by his wife, three daughters and two sons.

KANSAS STATE DEPARTMENT OF HEALTH

TOPEKA, KANSAS

Division of Preventable Diseases—Division of Vital Statistics—Kansas Morbidity Incidence
Summary of Cases Reported in February, 1965 and 1964

Diseases	February			January-February Inclusive		
	1965	1964	5-Year Median 1961-1965	1965	1964	5-Year Median 1961-1965
Amebiasis	—	—	2	—	1	3
Aseptic meningitis	1	—	—	3	1	1
Brucellosis	—	—	—	—	—	1
Diphtheria	—	1	—	—	3	—
Encephalitis, infectious	2	8	2	5	10	4
Gonorrhea	130	182	182	386	459	459
Hepatitis, infectious	58	76	58	113	142	141
Meningococcal meningitis	2	1	2	4	2	4
Pertussis	—	—	—	4	2	4
Poliomyelitis	—	—	—	—	—	—
Rheumatic fever	1	1	1	1	2	1
Salmonellosis	9	16	6	33	26	20
Scarlet fever	19	8	71	36	23	145
Shigellosis	9	40	9	14	78	14
Streptococcal infections	625	369	258	1,006	542	409
Syphilis	100	74	85	173	159	173
Tinea capitis	2	7	7	9	14	18
Tuberculosis	12	17	15	34	37	44
Tularemia	—	2	2	1	2	2
Typhoid fever	—	—	—	—	—	—

Personalities

(Continued from page 305)

Thomas F. Morrow, Wichita, and **George Zubowicz**, Osawatomie, attended a meeting for State Mental Health Planning in Chicago in April.

In May, **H. O. Marsh**, Wichita, spoke to members of the Kansas Claims Association, Inc., at their meeting in Wichita. The subject of his presentation was "Orthopedics: Past and Present."

Robert A. Nash, Olathe, will leave private practice the first of July to begin studying general psychiatry at the University of Kansas Medical Center.

James R. Smithheisler, Richmond, traveled to Omaha in May for a reunion of the class of 1905 of Creighton University Medical School. Dr. Smithheisler, who graduated 60 years ago in a class of 34, is believed to be the oldest Creighton medical alumnus still practicing.

James J. Jambor, Dodge City, gave a series of lectures on Dermatologic Surgery in Miami, Florida, in March.

William E. Ruth, Kansas City, spoke on the causes of lung diseases at the annual meeting of the Wyandotte County Tuberculosis and Health Association in April. **Virginia Gruendel**, Kansas City, was elected president of the association, succeeding **Lloyd H. Coale**, also of Kansas City.

Announcements

(Continued from page 309)

Aug. 2-6 *Pediatrics* (Estes Park)
 Aug. 9-13 *Internal Medicine* (Estes Park)
 Aug. 16-20 *Medical Audiology Workshop* (Estes Park)

For further information write Office of Postgraduate Medical Education, University of Colorado School of Medicine, 4200 E. 9th Ave., Denver 80220.

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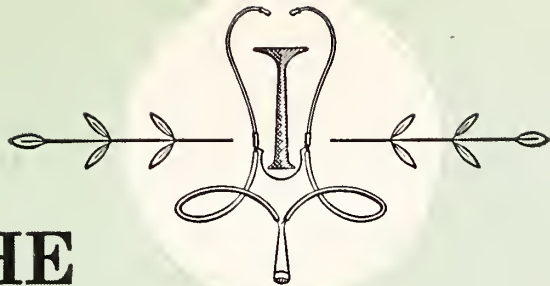
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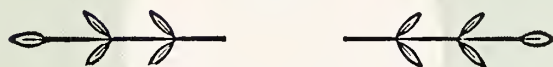
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The JOURNAL of the KANSAS MEDICAL SOCIETY

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Kienbock's Disease

Avascular Necrosis of Carpalunate Bone in Siblings

FOUNT K. HARTLEY, M.D., *Wichita*

History

IN 1910, KIENBOCK reported a lesion of the carpalunate bone. This disease has been called avascular or septic necrosis, osteochondritis, post-traumatic malacia of the carpalunate, lunatomalacia, traumatic nutritional disturbance, localized osteitis fibrosa, chronic osteitis, and a host of other names. So far this disease has defied accurate analysis of its pathogenesis and presented largely unsolved therapeutic problems.

Incidence

Kienbock's disease is seen three or four times more frequently in males and about five times more often in the right hand than in the left. It occurs mainly in manual workers between the ages of 20 and 50, the average age is 30. Other carpal bones are involved by aseptic necrosis, more commonly occurring in the lunate, more rarely in the scaphoid, and very rarely in the capitate or the hamate bone.

Etiology

The usual history from the patient is that he has fallen on the dorsiflexed hand. Some patients do not recall having sustained any injury, while others may tell of repeated injuries, although of a trivial nature. Some investigators feel that the condition comes from tearing off the blood supply from the lunate bone, but if this is true one would expect to find Kienbock's

disease following all dislocations of this bone, which is not the case. Many theories for the cause of progressive degeneration have been advanced, such as infection, direct pressure, or embolism. Most investigators feel that it definitely has to do with the loss in

Often following a fall on the hand, necrosis of the carpalunate is most common in middle adult age group, and is easily passed over as a "sprain." Plans of treatment are offered for various stages of the disease. Two cases are here reported—in siblings. No conclusions are drawn whether relationship is causal or incidental.

the blood supply to this bone. The fact that the carpalunate bone does have a rather precarious blood supply has been demonstrated by Stahl in his cadaver arterial injections. He found that only one or two narrow arteries enter the lunate from the volar side, and only one demonstrable dorsal artery was found (*Figure 1*). Other findings regarding the lunate bone show that the bone is almost completely covered by cartilage, having articulation with six other bones. The lack of periosteal covering would limit the blood



Figure 1. Enlarged views of periosteal volar and dorsal surfaces of a carpal bone showing entries of vessels.

supply and also explain the fact that many patients have minimal pain following their injuries.

Another factor in predilection toward injury is thought to be a shortened ulna in most of these cases. This shortening is termed "minus variant" which occurs in 14 per cent of the general population and 74 per cent of the cases with Kienbock's disease. If the ulna is shorter than the radius and the hand is in dorsiflexion, great compressive forces are placed on the lunate bone directly between the capitate bone and the radius. Carpal bone necrosis is not to be confused with other forms of aseptic necrosis.

Kienbock's disease is a disease of middle age and is not directly classed with diseases normally associated with the period of growth, such as Osgood-Schlatter's disease, Legg-Calve-Perthes disease, and Kohler's disease. If one tries to distill all of the theories proposed for this disease, one comes up with a few clinical observations. One of these observations is that in the early stages of this disease one notices a cyst-like structure which would denote an increased circulation. Subsequently a decrease in vascular supply is demonstrated in roentgenogram as an increased density of bone. Leriche maintained that after circulatory disturbance there first occurred a vasoconstriction and later vasodilatation, and that this was activated by "traumatic axon reflex." This hypothesis fits well in the clinical course of this disease. It is felt that the lunate bone can be considered to be encapsulated and is practically enclosed by articular surfaces and only a few nutrient foramina for circulation in the nonarticular areas. A vasomotor disturbance causing edema and swelling follows trauma of a compression type so that circulation is excluded to the extent of causing some necrosis of a patchy type. This necrosis is followed by revascularization, sequestration, absorption and gradual substitution of bone, and by fibrosis.

Pathology

X-rays at first show a cystic degeneration and this is usually found in the low density, highly vascular, granulating areas. A fracture line can occasionally be seen across the bone through this area. At first patches of osteoporosis and a single vacuole can be seen, which later appear to grow together. The bone seems to be a bit enlarged at first, eventually it shortens and widens, and finally it seems to be crushed between the head of the capitate and the radius and spreads out widely into the joint. Microscopic sections of the bone simply show patchy aseptic necrosis with hypertrophied blood vessels and secondary erosion of the cartilaginous articular surfaces. Arthritic changes are seen, but as a rule in later cases in which the mechanics of the joint have been upset by the absence of the lunate bone itself.

Symptoms

Generally the symptoms are tenderness, swelling, and limitation of motion, the latter being especially on dorsiflexion. It is common to get the history of radiating pain up through the forearm with tenderness into the lower and dorsal surfaces over the bone itself. A helpful diagnostic aid is a response of pain from putting pressure on the end of the middle finger or flexion of the metacarpophalangeal joint. X-ray appearance establishes the diagnosis and one can often predict the stage in which the disease is currently present.

Treatment

Avascular necrosis of the lunate bone is by no means rare, therefore, attention should be focused on the sprains of the wrists and serial roentgenographic examinations should be carried out even if the roentgenogram at the time of the sprain is negative. In the early stages of this disease many cases can be cured if conservative treatment is used; that is, a cast for six to eight months. In later cases, a prolonged conservative immobilization seems to be ineffective because necrotic bones which are deformed provoke joint reaction and subsequent fibrosis. Usually the treatment for moderate to severe advanced disease of the lunate is to excise the lunate as soon as the condition is proved to be increasing or permanent. Hypertrophic arthritis will thus be lessened as soon as this is done. Following excision of the lunate bone there is a certain amount of disability which eventually disappears, though some patients will complain of pain on prolonged activity along with some diminution of grip. In certain cases an arthrodesis of the wrist becomes a necessity. This should not be considered as a fearsome tragedy. Actually, minimal disability is entailed by a wrist fused solidly in a good position of function.

Some good results have been reported by scooping out the necrotic bone and leaving the good bone, filling the cavity with cancellous bone.

Case No. 1

F. V., a 25-year-old university student was first seen on April 1, 1961, at which time he complained of a snapping of the right wrist. The pain was in the dorsum of the hand around the ulnar styloid. The diagnosis of aseptic necrosis of the lunate bone was made and the patient was put in a gauntlet cast intermittently for three months. Concurrent with this the

noticing pain when he was working for a water company where it was his job to turn heavy valves. On some occasions he would feel a popping sensation in the joint of the right wrist. The patient denies any severe accident or known injury to his wrist. On subsequent films there has been no hypertrophic arthritis noted although eventually this patient will probably need excision of the carpalunate.

Case No. 2

L. D., female, age 39, office secretary, was first seen in the office complaining of pain in her right wrist

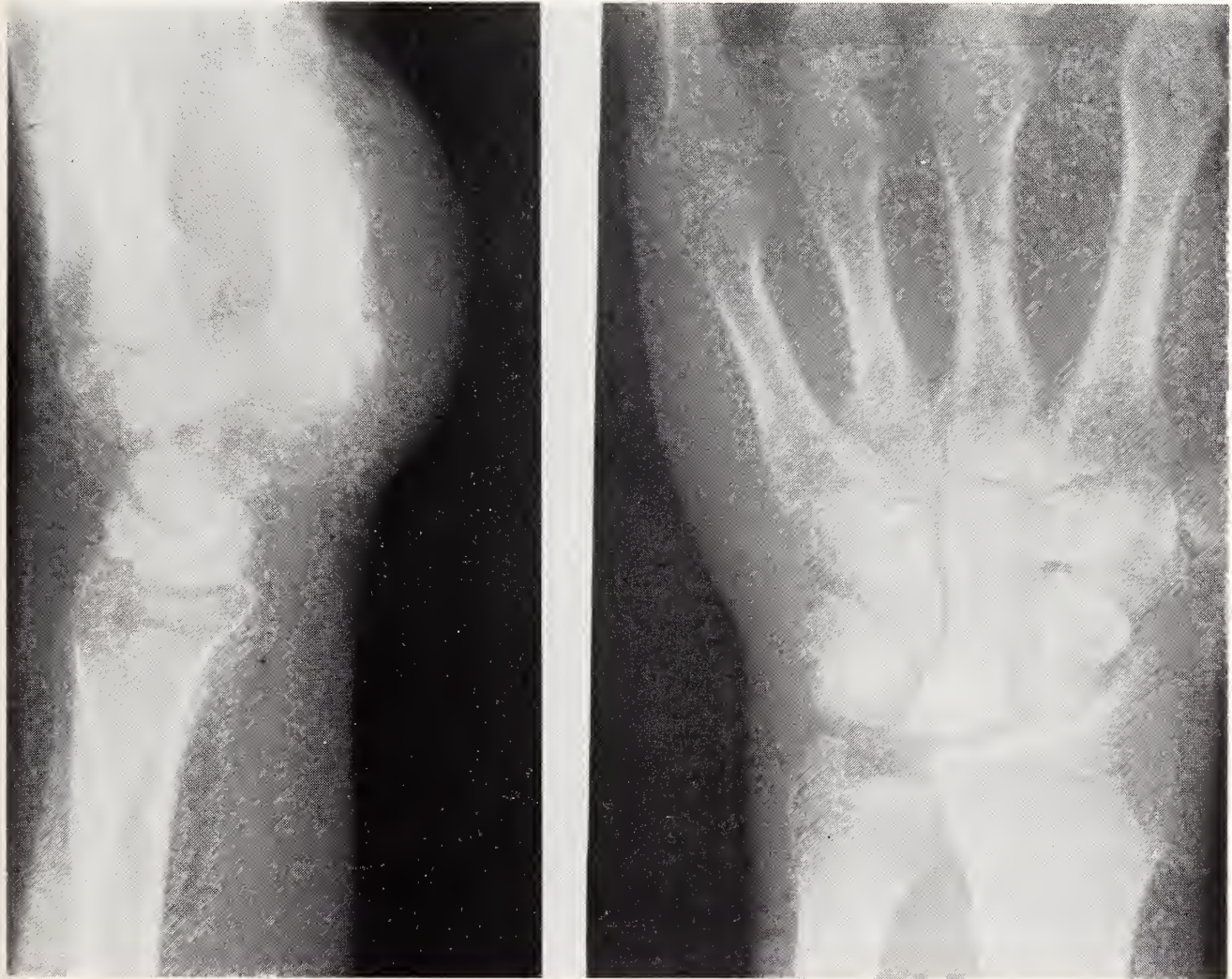


Figure 2

patient was found to have an elevated serum uric acid and was given uricosuric medication. *Figure 2* reveals the appearance of the wrist on April 1, 1961, when the patient was first seen. Note there is little reactive change at the radial surface, and there appears to be no carpal arthritis. The minus variant is definitely present. In retrospect, the patient first began

which began early in May, 1964. This patient is a sister of F. V. (Case No. 1). She began having pain in the dorsal wrist when she bowled or lifted objects of light weight. She also denied any injury or accidental trauma to this wrist. X-ray of May 8, 1964, reveals increased density along with some vacuolization of the carpalunate bone (*Figure 3*). There is no

carpal arthritis at this time and the minus variant is questionably present. This patient's wrist was immobilized and is asymptomatic at this time.

Summary

This is a case report of Kienbock's disease in siblings. A previous report of similar cases of this sort is not known. The theoretical possibility of a hereditarily precarious vascular supply of the carpalunate

bone is suggested by this report.

References

1. Wagner, C. J.: "Fracture or dislocations of the wrist," *Clinical Orthopedics*, No. 15, pp. 191-192, Philadelphia and Montreal, 1959.
2. Murray, G. D. W.: *Fractures and dislocations of the carpus, Surgical Treatment of the Motor Skeletal System*, Part 2, 2nd Ed., pp. 1005-1006. J. B. Lippincott Co., 1951.
3. Bunnell, S.: *Traumatic degeneration of carpal bones in surgery of the hand*. J. B. Lippincott Co., 4th Ed., 1964, pp. 293-296.

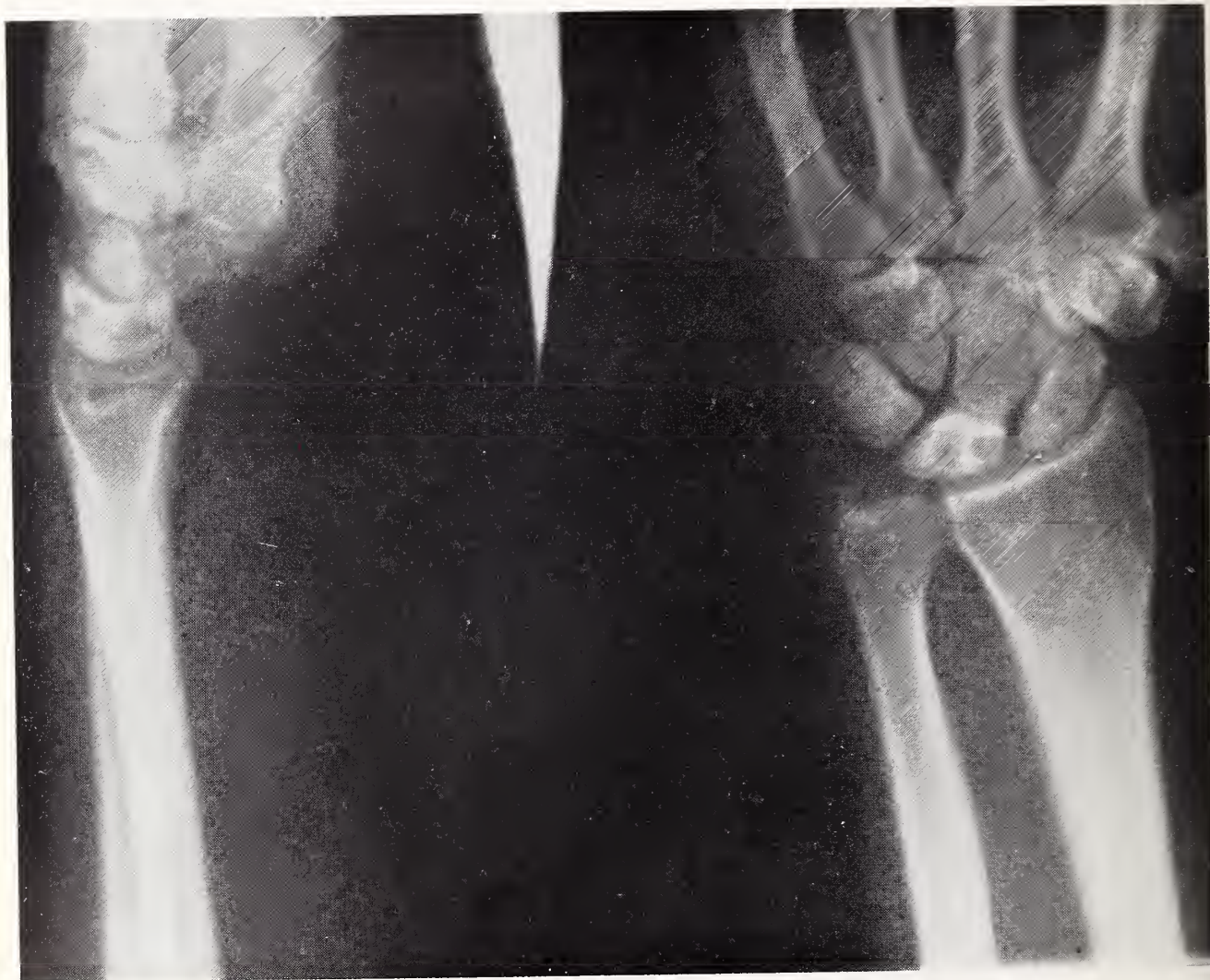


Figure 3

CHANGES OF ADDRESS

Members of the Kansas Medical Society will receive the JOURNAL and correspondence from the Executive Office promptly only if correct addresses are on file. Report changes to Kansas Medical Society, 315 West Fourth Street, Topeka, Kansas.

New Six-Year Program

Tomorrow's Challenge for Medical Education

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THE EDUCATION of the physician has been modified and will continue to be modified by advancing knowledge in medicine, the medical sciences, and by the changing role of the physician in society. The broadening base of medicine and the medical sciences brings increasing emphasis in pre-medical and medical education on the fundamental physical and biological sciences and mathematics. Better understanding of the normal function of cells and more complex living systems permits general concepts to replace empiricism in many areas of medicine, but the life sciences remain more complicated than the other sciences and have broader implications. It is not enough to adapt the reductionist approach of the physicist and chemist. We require more than information about the function of the smallest unit of the living system. Understanding a complex organism requires knowledge of the relationships and the adaptive usefulness of structures and processes to the whole organism, to the species of which it is a part, and to the community in which it exists. The need for understanding organization from the cellular to the complex society levels has no parallel in chemistry or physics.

The scientific revolution lead by the Germans during the beginning of the century took medicine far along the path of the reductionist approach. The patient was looked upon to a large extent as a disease entity. Inadequate attention was given to the interaction between the human, an individual and part of a social system, and his disease. The powerful forces of the psyche on body, and even cellular function, introduce complexities beyond those of concern to the laboratory scientist. These forces are yielding slowly to understanding, but they pose more difficulties in our efforts to educate physicians than the better understood scientific aspects of medicine.

John Ellis, in discussing criticism leveled at medical education, says, "Some of the criticism is unrealistic. For example, it is frequently claimed that it is the fault of the medical schools that young doctors today know more about diseased organs than they do about people. Of course they do, because far more is known about organs than is known about people. Medical schools cannot educate, and at the same time,

An integrated program in medical education has been instituted at Northwestern University. Each year 25 students are permitted to enter the program and, if they perform satisfactorily, are assured of receiving degrees in medicine in six years. Explained here by Dr. Cooper are the goals and achievements of the new program.

teach knowledge which does not exist. Possibly a more valid criticism might be that some schools endeavor to fill their students' heads with too many theories about people for which there is previous little evidence. Certainly no one ever learned to be compassionate, humane, or kind by imbibing theory, however much the teacher believed in it himself. Anyone whose concern for the subjective elements of medicine is genuine and serious must be appalled by our massive ignorance in regard to almost all forms of psychogenic disorder, and in regard to that most important area of medicine, the doctor-patient relationship. No one who is conscious of this ignorance can in honesty and mercy disclaim too much research. He can only call for more research to be directed to the area in which it is most needed."

Rapid advances of knowledge in both the behavioral and biological sciences have a profound effect in deepening the complexity of medicine. With a doubling time of five years or less for information in the sciences related to medicine, there is an increasing preponderance of what is new over what is old. With this rate of increase in knowledge, factual material learned today has less and less importance tomorrow. How can we extricate the student from this rapid growth of knowledge and prepare him to cope with the avalanche of the future? For one thing, the all too common approach of teaching the student a large quantity of unrelated factual information must give way to providing him with an opportunity to learn enough general information to permit him to move along in the rapidly growing and highly specialized world. He cannot be expected to acquire any substantial part of the current knowledge even in fairly restricted areas. And those of you who are trying

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vainly to keep up with only a small fraction of new information related to one specialty know what I am talking about. Our efforts must be more directed to instilling a deep and continuing desire for self-education so that the period of learning can extend over the entire professional span. Along with this desire, however, we must find better and more effective ways for the physician to continue his education. Professional meetings, postgraduate courses, and journals all play an important role in continuing education, but they are episodic and inefficient. The community hospital, through a regularly scheduled and properly organized program, could make even more important contributions to the continuing education of the physician. It is here that use of clinical material can supplant didactic work and case presentations. The establishment of a university without walls as proposed in the Dryer report could coordinate the education programs and provide teaching materials. The medical schools themselves must take an increasing interest, not only in providing for the formal segment of the physician's training, but in sustaining his level of education throughout his professional career. Most of our medical schools can learn much from the efforts of the University of Kansas School of Medicine to relate themselves to the practicing physicians in the state. The time required in the formal educational program for accumulating the minimum requisite knowledge and skills cannot continue to be lengthened as it has in the past few decades. Otherwise, physicians will graduate directly into homes for the aged. Some rethinking of our total educational system is required.

Dael Wolfle has recently pointed out that there appears to be a conspiracy to delay the age at which a scientist is permitted to be on his own. His points are equally applicable to medicine. As Wolfle observes, in 1947 one five-year-old in four was in the first grade. Now only one in eight is there. Advancement in elementary school is so much more heavily weighted on age than on achievement that only five per cent or less are ahead of the normal grade. Few students graduate from college in less than four years, in spite of the fact that they are not required to return to the farm during the long summer recess. This period is not profitably used by students to shorten their educational program or to add to their knowledge or skills. The medical school curriculum does little in a formal way to recognize the difference in ability among students to learn. Progress is more equated with time spent in a course than with the knowledge and skills attained. Residency programs prolong the period before the young physician can begin to make his full contributions to society. But, in contrast to the scientist described by Wolfle, we cannot send the young physician out too early with

freedom to sink or swim as his own abilities and ideas dictate, even if his independence is postponed beyond the age when he is most full of energy and fresh ideas. In the case of the physician, human lives and not just scientific data are involved. But, on the other hand, our goals should be to make it possible for each student to move through his educational program at a rate which his intelligence, his skill, his ability, and maturity dictate. We must factor into our judgment not only how much of the essential factual information he has accumulated but how deeply he has acquired scholarly attitudes and how well he has learned to learn for himself. Unless we are certain that he learns this, adding extra years of instruction or extra bits of knowledge will not long hide our failures. This constitutes one of the frontiers of medicine.

I think we have instituted a program at Northwestern to probe this boundary of our understanding. The program takes advantage of the superior preparation in the sciences, arts, and humanities, which talented students receive in an increasing number of high schools. The new, rigorous and exciting programs represented by honors, English, PSSC physics, CBA chemistry, and the new mathematics bring many students to a level of understanding equal to that of advanced college students of a few decades ago. More important, they stimulate the student to a curiosity for learning that adds a new dimension to their development.

Each year 25 such students are permitted to enter an integrated program in medical education at Northwestern, which assures them the achieving of an M.D. degree in a minimum of six years, if they perform satisfactorily and mature normally. In this honors program the student's time is divided; two years on the Evanston campus in the College of Arts and Sciences and four years in the Medical School. The program is very flexible; the student may elect to take additional time in the college beyond the minimum of two years. We have already had several students in the program who have elected to take such additional time. Thus, it is not a narrow program which unalterably commits them to the minimum six-year program. It also permit the students to change their interests. There is no wish to entrap students into a program from which there is no exit. Two students have left the program; one to major in English and the other in sociology. This furnishes some proof that the program is broad enough to permit the students to shift their goals if other interests develop during their college work. In the two years on the Evanston campus, students spend about half of their time in science and half of their time in non-science courses; during the first year they take a combined physics-mathematics course which is

unique in the country. It is not a calculus-physics course; it is a differential equations physics course. It does not cover all of physics; it does not cover that part of physics of particular interest to physicians because the purpose of this course is not so much the acquisition of factual information but the development of attitudes and insights into physics. Actually, the physics department is placing some of their own honor students into this course. We feel this is proof that the special science courses have been designed for and are thought to be worthy of honor students no matter what their ultimate area of interest. In the first year, students also take a chemistry sequence which brings them through organic chemistry. The other half of their time is spent in electives.

In the second year the students take a year course in physical chemistry and a biology course. The biology course is also unique in that it is one of the few introductory biology courses which has as prerequisite physics, chemistry, and calculus. This course is devoted mostly to molecular biology, cellular physiology, genetics, evolution, and ecology. We have tried to span from the smallest part of the cell up to the community. This course has been so successful that the biology department has now abandoned their previous undergraduate curriculum and is devising a six-quarter sequence based upon these first three quarters for their majors in biology. The other half of the student's time in these first two years is spent in the humanities, the social sciences, and the arts. We have no demands upon the students with regard to what the distribution of these courses are, except that they shall be chosen with counsel. In the last quarter of 1963 the 25 students took 29 different courses in the arts, humanities, and social science. Nineteen elected a language.

In addition to this formal part of the program, we also have monthly dinner meetings with these students at which faculty members from the Medical School meet with the students and discuss some aspect of medicine—history of medicine, medical science, the practice of medicine. We feel that this is very important so that the student can immediately relate to the Medical School and what he is doing at that particular time to his long-range goal which is to become a physician. We have found that this has been so important in stimulating the interest and the dedication of the students that we are expanding this and are making it possible for all pre-medical students to have similar kinds of experiences. It is very interesting that in spite of the fact that we have a very highly talented group of students—students whose college board scores average in the upper one per cent of all high school students in the country—we have lost none of these students to the sciences. We have lost two to the humanities, but none of these stu-

dents have chosen to go into chemistry, physics, mathematics, or biology, and not to continue in medicine. I think a great part of this can be ascribed to this very personal contact which we have with the students and their very early and continuing identification with medicine.

In addition to the evening dinner meetings with the students, there is a research training program which starts from the first month the students are in college. Over half of the students are interested in medical practice, but the other half are considering the possibilities of combining research, teaching, and patient care for a career in academic medicine. Those who elect the research training program meet once a week on Saturday mornings at the Medical School under the supervision of faculty members. The first part of this program starts out with philosophical considerations of the responsibilities of scientists and physicians, their particular place in society, society's view of scientists and physicians, and so forth. Biostatistics, mathematical modeling, and data retrieval follow. At the end of the first year the students are given an opportunity and a small stipend to do research work at the Medical School under the supervision of a carefully chosen preceptor. These students are not dishwashers or laboratory technicians. They actually read the literature, formulate their problem, and discuss their problem with their peers. I have heard students tear each other's experimental designs apart. They usually continue work on their problem over the next two summers. Out of the first class, four of the students already have publications in major national periodicals. Those students who desire can elect to study for a combined M.D.-Ph.D degree. We have just received a grant from the NIH to permit support for five students a year in the combined program. The grant will carry their entire expense after the fourth year of the program until their combined degrees are received. The students will drop out at the end of the fourth year of the program for full-time graduate work. Because of their past experience in the laboratory and the nature of their educational program, we think that they can achieve the Ph.D in three years. They return to complete the clinical years of their medical education. This program permits them to obtain the Ph.D and M.D. degrees nine years after graduation from high school. This program will help provide faculty members to fill the 800 vacant positions now existing in medical schools and faculty for new schools under development.

Not as much information is available about the last four years of the integrated program as the first two, because the initial class has just entered the first year of medical school. We are revising the curriculum there for all students. The students have considerable

freedom in their course work and many of them are doing a lot of outside reading or work in the laboratory in addition to the regular medical school course.

We have not been successful with all of the students, and we did not expect to be when we started the program. In the first class, two of the students dropped out of medicine and transferred into the humanities. Three students dropped out of the program but continued with a three-year pre-medical program. Two of the students elected to take an additional year in the college, taking courses in the humanities beyond those which they had been able to take in the two years. One student was a complete failure and was denied further registration after a quarter in the College of Arts and Sciences.

What kind of faculty have we interested in this program? Many predicted that chemists, physicists, or biologists could not be interested in programs for students who have decided on a career in medicine. This is not true. Actually, some of the best teaching on the campus is done by those responsible for the program. What interests them, of course, is that they have a lot of bright students to work with.

How about the students? They are the most important part of the program. We have attracted students from 23 different states. Their college board scores place them in the upper one per cent of high school graduates. Thirteen states have been represented in the last class. The most students from a single state are from Illinois (ten). The students

have been chosen on the basis not only of their academic performance and their college board scores but on their leadership qualities as judged by their peers. Many of the students have been presidents of their classes, presidents of the student council, or have been involved in other activities in which the other students have had a hand in making the choice.

The integrated program has achieved most of the goals set for it. Of course, the final evaluation cannot be made until the students have finished the six years in the program and have gone out into the world. They have had no trouble in mixing with medical students who have been through traditional three and four year programs. They have been well accepted, and not discriminated against because of their age. They were called "whiz-kids" for the first week or so, but now you cannot tell them from the other students; they are not set apart.

In this program we have taken advantage of the student's ability to progress through pre-medical and medical school to be a physician. Hopefully, his period of training as a house officer and the educational opportunities to his professional career will soon have the same kind of reappraisal because this is only one stage of the total problem, and I think that for medicine to fulfill its responsibilities in the future and to maintain itself as a great profession it should continually reappraise its program from the beginning to the end.

NEW PAMPHLET AVAILABLE

"Cancer of the Stomach," a pamphlet prepared by the National Cancer Institute to give the public a clearer understanding of the disease, has been issued by the Public Health Service, Department of Health, Education, and Welfare.

The eight-page pamphlet, the sixth in a revised series dealing with cancer of different body sites, discusses the incidence of stomach cancer, its symptoms, diagnosis, and treatment, and current research into the disease.

Unlike many other forms of cancer, stomach cancer has occurred less and less frequently in the United States in the last several decades. It causes only about six per cent of all cancer deaths, compared with 20 per cent 20 years ago. Nevertheless, an estimated 19,000 Americans die from it each year.

On the subject of stomach ulcers, the pamphlet explains that most United States physicians believe the danger is not so much that ulcers may lead to cancer but that they may mask stomach cancer and thus delay proper treatment. In cases of what appears to be stomach ulcers, repeated x-ray examinations should accompany the ulcer treatment to make sure that a malignant tumor is not present and growing.

Other pamphlets already available in the National Cancer Institute's series of ten are on cancer of the breast, uterus, skin, bone, and lung.

Single copies of "Cancer of the Stomach" (PHS Publication No. 1237) are available without charge from the Public Health Service, Washington, D. C. 20201. The pamphlet may be purchased in quantity from the Superintendent of Documents, Government Printing Office, Washington, D. C. 20402, at 5 cents a copy or at \$3.25 per 100 copies.

Tomorrow's Doctors

The Science Talent Search Program at KUMC

MARGARET R. G. TREADWELL, M.S., F.A.P.H.A.,* *Kansas City, Kansas*

BETWEEN JUNE 1 AND JUNE 20 thirty-nine gifted science students converged on the University of Kansas Medical Center to begin work with individual senior faculty members in 30 study sections and laboratories. Their term of study is ten consecutive weeks between June 1 and September 1. Their hours are the same full time given by their faculty mentors. Their assignments are to apply themselves to whatever study or research project their teacher has in hand, to learn the particular technical expertises required, and to do the assigned individual reading and reporting.

This program, known by the rather unwieldy title of the Science Talent Search Program, and now beginning its ninth session, has as its sole objective the encouragement of exceptionally gifted science students to enter upon careers in medicine and the basic sciences. This year there are 27 high school students and 12 college students enrolled. Older and younger students are considered equally on the basis of their intellectual ability and promise with no limitations of scholastic level. Students have been accepted from the ninth grade, and in their third college year.

The program is looked upon as a resource for science teachers by the physician members of the Kaw Valley Heart Association, to whom credit must go for this venture which has won national interest and recognition. Many high school science teachers particularly have highly gifted students for whom it is impossible to provide adequate work and guidance within class limitations. At a virtual standstill such a youngster is either discouraged, or from sheer force of intellectual curiosity abandons the field for something else, engineering perhaps, or business. He is lost to medicine and its related disciplines. These teachers know we can ill-afford the loss of gifted potential scientists but their hands have been tied.

Background

In 1957 a request came to this Heart Association Chapter affiliated with the Center for help in meeting the needs of scientifically gifted science students at high school and college level, who from time to time turn to members of the faculty of medicine of the University of Kansas for counsel, guidance and help in their studies. A program has now been de-

veloped that seems to meet the felt obligation and real desire of the physician to encourage a student to enter medicine or the medical sciences, without placing impossible demands upon the physician or upon the School of Medicine.

The program started with three high school stu-

The background and progress of the Science Talent Search Program are presented here. The program, now beginning its ninth session, has as its sole objective the encouragement of exceptionally gifted science students to enter upon careers in medicine and the basic sciences.

dents and \$100, under the chairmanship of Tom R. Hamilton, M.D., of the University of Kansas School of Medicine faculty. In 1962 Kermit E. Krantz, M.D., chairman of the Department of Obstetrics and Gynecology and Professor of Anatomy, succeeded Dr. Hamilton as chairman of the Association's Board Standing Committee for the program.

The program has now assumed what its protagonists believe to be its permanent general form and character. During the past eight years it has returned from a group program in one department, taught by a department head with a "tutorial" or "section man" assistant, to the original concept of a senior faculty member teaching each entrant (or in rare cases two) entirely individually. Each student's work is chosen and planned by that faculty member. It may often involve the student in research procedures. However, from the beginning the medical school faculty and our Association have joined in stressing that these students are *not* "doing research." It is their belief that any such description is inaccurate and would lead to gross misconceptions on the part of both students and public.

Principal factors in shaping this design and development have been:

1. The wish to find and recruit for the medical sciences the best and ablest young men and women; not to let them be lost for lack of response and teaching at the time of peak motivation and decision for life-work, which is frequently before college age.
2. The fact that there is no place in a medical

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school for high school level study, however worthy and appreciated it might be; that only students whose ability, as measured at and above the college level, is exceptional can be considered.

3. The fact that no large numbers, noise, interruptions, distractions, burden or interference with the obligations of the faculty and the Center for the teaching of medical students, and the care of patients, can be tolerated.

4. The recognition that no administrative burden or obligation should fall upon any faculty member (except the executive director of the Heart Association who is a "voluntary" faculty member) beyond the final selection of students, and the individual's actual guidance of a student if and when he chooses.

5. The acceptance of the financial obligation in toto by the Heart Association.

Present Format

The Science Talent Search Program committee consists of the chairman, two additional senior faculty members, a high school director of curriculum, a university dean, two physicians in private practice, and two members of the Finance Committee *ex officio*.

Students are nominated by their high school or college science teachers. They are screened by the executive director of the Heart Association (who has had extensive experience on college scholarship committees) serving as administrator of the program. Student papers are reviewed and selections made by the Program Committee. The administrator then sends one copy of a student's application, with interview notes, to a suggested faculty member for consideration. If interested he requests the student be sent for interview, and either offers a place with him or does not, as he chooses. In most cases it has been possible to match a student and teacher in the first instance.

Financial Support of Students

Where students cannot afford an additional ten weeks of study in the year, scholarship grants are provided to the limit of the available funds. Determination by the Committee of needs and qualifications of scholarship grants, and their amounts, are based upon criteria familiar to college admissions officers, varying with local costs and economic conditions. This year the range is from \$50 to \$600.

Funds

Beginning in 1963 the Kansas Heart Association has provided funds for from three to five Kansas students outside our Chapter area.

In 1960 the Kansas City Association of Trusts and Foundations, at the suggestion of the executive director of the Kaw Valley Heart Association made a

grant of \$425. In 1961 the Foundation doubled its support to \$850; in 1962 it raised its contribution to \$2,400 and has continued it at that level.

Also in 1960 an application was made to the new Community Fund of the American Heart Association and a grant was approved in the amount of \$3,000 (\$1,500 for 1961, \$1,000 for 1962 and \$500 for 1963).

All outside funds are applied directly to scholarships.

The sum budgeted by the Kaw Valley Heart Association has risen from the first \$100 in 1957 to \$4,775 in 1965. This is in addition to provision of all record and correspondence services, and those of the executive director of the Association as administrator for this group of students in the medical school. The total of 1965 scholarship grants from all sources is \$10,075.

Findings

1. These exceptionally gifted students do indeed exist. Some of the best would unquestionably go elsewhere than into the medical sciences were it not for the program.

2. The family doctor and physician friend are important factors in decisions for medicine, here.

3. The program is feasible for a limited number of students widely scattered among the considerable number of faculty who are found to be interested in taking part.

4. The program is acceptable to the faculty member when he finds the student he wants on first or only occasionally second interview. This requires skill and judgment on the part of committee and administrator.

5. The admissions procedures are effective, namely: an application form filled out and submitted by the teacher; an academic record (including tests) transcript; screening by the administrator's interview; review and tentative selection by the committee; offering selectee records to individual faculty members; acceptance (or rejection); offer of scholarship aid by the committee if considered warranted.

6. It is important to continue a student in the program until he or she finds the next step which may take the form of an undergraduate college research grant, a national or other special scholarship, a United States Public Health Service scholarship for the summer or other. Costs and numbers fluctuate according to the number of "returning" students and their academic level.

A constant guard is maintained against (1) watering down the program by acceptance of attractive or ambitious students who may lack either the need or the ability to profit fully from such an opportunity and (2) exposing the faculty, through the favorable public attention received by the program, to direct requests from friends and parents. These can actually

be *reduced* by referring them to the program office. The Association describes the program as a service to teachers; the science teacher's name is obtained; the teacher is then advised that any application he wishes to make will be welcome; that it is to be based solely on his judgment and not the student's request.

Contacts with high school and college teachers are maintained in connection with the provision by the Chapter of curriculum enrichment materials in science to the secondary schools; through the Chapter's services to colleges; and in the continuing follow-up of our students.

The population of the Kaw Valley Heart Association Chapter area is almost exactly half metropolitan and half truly rural. A student from a country or small town school is often largely lacking in laboratory experience, sometimes in science instruction. For this reason there are no set requirements of courses or course content for admission. Such requirements would have ruled out some of the most brilliant students, pupils who make up their deficiencies very quickly. Often this ability is traceable to the good individual teaching they have had in the available curriculum subjects, or to the interest and help of a physician.

An Important Corollary

For some time the committee has recognized the need for summer fellowships for high school science teachers, to make it possible for them to work with small groups of top students in their own schools. In the summer of 1964 seven students were enrolled in the first such program, jointly sponsored by the Kaw Valley Heart Association and the Paola, Kansas, school system, with the further financial assistance of the county medical society. Fred Dryden, 1963 American Heart Association award winner for distinguished science teaching, and science teacher in the Paola High School, served as consultant until his untimely death in late 1964. This project is continuing in summer 1965.

In Conclusion

Present evaluation of the program is *per se* highly subjective. Unquestionably however, some of our students would never have reached college without the program, let alone graduate study. Student records are brilliant in terms of the 58 major scholarships already (and only incompletely) recorded. This does not include National Honor Society, Greater Kansas City Science Fair Grand Awards, our own summer scholarships, Dean's lists and other intramural honors.

What these young people will be capable of, how much they may accomplish in the prevention and control of the diseases of man, and specifically heart and circulatory disease, remains to be seen in the next 30 or 40 years.

HEALTH AND SAFETY TIPS

Safety experts can predict with reasonable accuracy that more than 6,000 persons will drown in the summer of 1965.

Most of these drownings could be avoided if swimmers and others engaging in water sports would pay attention to the basic safety precautions. Some of the basic rules are—

- Learn to swim and relax in the water.
- Never swim alone.
- Don't swim when overly tired or when the water is extremely cold.
- Don't overestimate your ability and endurance.
- Swim at protected pools or beaches under the supervision of a trained lifeguard.
- If a boat overturns stay with it and don't try to swim a long distance to shore.
- Never dive into unknown waters.
- Try new activities only after learning the skills from qualified instructors.

Skin diving and SCUBA diving both are fine sports that are gaining more participants each year. Both require special training and knowledge and a good physical condition. SCUBA equipment needs continual checking to make sure you get sufficient air supply.

Water skiing is an exhilarating sport, but it also has hazards. The man handling the boat should know what he's doing. The skier should always wear a life jacket. Even a strong swimmer can be winded by a hard fall at high speed.

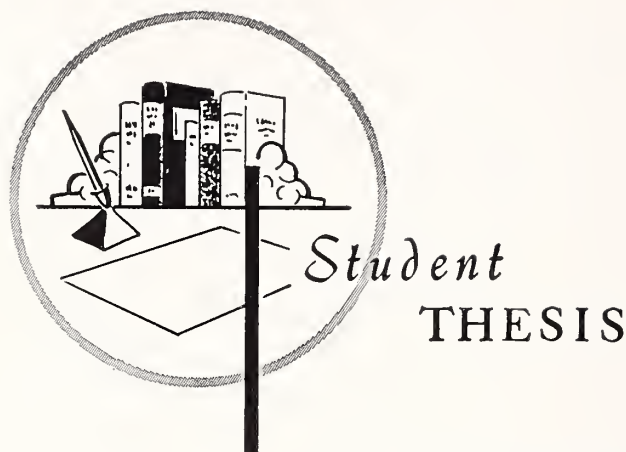
Private pools are gaining rapidly in the United States. If you have a pool, or use a neighbor's, observe some fundamentals of safety—

- Is the pool kept clean and the water chemically purified?
- Walk, don't run, about the pool, and be careful with horseplay.
- Fence the pool and keep the gate locked to keep out small children.
- Keep rescue equipment, such as long poles and ring buoys, handy.
- Keep bottles and glasses away from the concrete or metal pool deck.

Are all in your family good swimmers? If not, arrange lessons at the YMCA or some other center in which qualified instructors conduct classes. Many drownings occur among non-swimmers or weak swimmers. A refresher course even for good swimmers might save a life by helping the swimmer get into better physical condition.

Know about artificial respiration and how to apply it. The mouth-to-mouth method is explained in the

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Somatotropin and Acromegaly: A Review

DEL LUTSENHIZER, M.D.,* *Portland, Oregon*

ACROMEGALY IS A chronic disorder characterized by an overgrowth of bone, connective tissue, and viscera in response to prolonged and excessive stimulation of the tissues by growth hormone (GH), with the eventual production of anthropoid features. Though the characteristics of the disorder were described earlier, Pierre Marie first used the name "acromegaly" in 1886 because of the hypertrophy of the extremities. Within 14 years, the disease was correctly ascribed to a pituitary eosinophilic adenoma. However, at autopsy only 75 per cent of acromegalics are found to have eosinophilic hyperplasia, rarely a functioning malignancy, and the balance are chromophobe adenomas of assumingly inactive states of acromegaly. The incidence of acromegaly approximates 1/5000-15000 with the most common age of onset in the third and fourth decades of life. There is apparently an equal incidence in males and females. Should hypersomatotropism occur prior to epiphyseal fusion at puberty, the more rare affliction, gigantism, results and should hypopituitarism be present from infancy, dwarfism results. These two more rare disorders will not be dealt with.

When a case of hypersomatotropism in the adult first presents itself for diagnosis, it frequently approaches being classically acromegalic. Diagnosis becomes difficult in questionable cases of early acromegaly and in evaluation of possible recurrences after therapy. Therefore, a discussion of laboratory techniques used in evaluation of GH activity is warranted as well as presentation of the altered metabolism in acromegaly.

* This is one of a group of theses written by fourth year students at the University of Kansas School of Medicine, selected for publication by the Editorial Board from a group judged to be the best by the faculty at the school. Dr. Lutsenhizer is now serving internship at the Good Samaritan Hospital, Portland, Oregon.

Growth Hormone: Its Nature

All the mammalian pituitary growth hormones are composed of amino acids and are devoid of lipid and carbohydrate components. Early work with bovine, porcine and ovine growth hormones revealed their virtual ineffectiveness in human therapeutic trials and subsequently in hypophysectomized monkeys. When human growth hormone (HGH) was finally isolated and characterized it was found that simian and HGH are structurally related and that the molecules are much smaller than non-primate mammalian GH; the human hormone having an M.W. of 27,100, the simian hormone an M.W. of 25,400, and the ovine hormone an M.W. of 48,000. This has led to the hypothesis by Li that the larger non-primate pituitary growth hormones have an active "core" approximating the molecular size of the structurally smaller primate GH. He has supported this suggestion by demonstrating that as much as 24 per cent of the amino acid nitrogen could be removed from bovine GH by enzymatic digestion before biologic activity is lost. Fortunately, hypophysectomized rats respond initially nearly identically to all mammalian growth hormones thus far tested.

The resemblance of HGH and sheep prolactin is of significance. Starch gel zone electrophoresis of the two purified hormones have shown striking similarities in motility and components, and the patterns are unlike those of oxen, sheep, porcine, and whale pituitary growth hormones. By bioassay using pigeon crop sac stimulating activity, all components of HGH were found to have both prolactin and growth promoting activity and the prolactin activity was relatively as potent as sheep prolactin. It was also found that sheep prolactin has GH-like effects on the glucose tolerance and insulin sensitivity in dogs and monkeys, stimulates nitrogen retention in humans, and body growth

in pigeons. This information is interesting due to the difficulty in separating HGH and human prolactin and the fact that the few acromegalic women who have become pregnant have had persistent lactation, sometimes in terms of years. Further, pituitary eosinophils are thought to be the source of GH and prolactin in the human.

Immunologically, antibodies induced in rabbits to primate GH will not react with hormones from other species. Such specificity has also been demonstrated among many of the non-primate mammalian growth hormones as a group. Such species specificity of GH is to be contrasted with the broad cross-reactivity of antibodies induced against ACTH, TSH, and LH.

Metabolism of Growth Hormone

Although the effects and importance of GH are well recognized, there remains remarkably little information about the sites of its action, the *in vivo* metabolism of the hormone, and the regulation of its release.

By radio-immunoassay the HGH content of the plasma of normal adults is about 10 millimicrograms per ml. Parker, *et al.*, injected human subjects with 5 mgm. of HGH purified by the Raben method and iodinated with I^{131} and found the half life of the hormone to be 27 minutes or $K=2.6$ per cent per minute. Considering a 70Kg man would have about 140 micrograms of GH in the extracellular fluid and if the calculated turnover rate of 2.6 per cent of the pool is correct, this would necessitate a daily production of 5 mgm. of the hormone by the pituitary. This is approximately the GH content of the pituitary and is equivalent to the amount of GH necessary to restore balanced growth in the pituitary dwarf. Although Parker considered that the iodinated hormone metabolism may not entirely correspond to that of the endogenous hormone, it was determined that the immuno-reactivity was largely preserved and that the concentration of inorganic iodine was low. Salmon, *et al.*, using iodinated HGH in rabbits intravenously determined the half life of the hormone to be 17.6 ± 1.8 minutes with a very rapid disappearance from the plasma during the first ten minutes. This is considered to be due to extracellular distribution. The kidney has in excess of two times and the liver 1.4 times the plasma content of the hormone at 90 minutes. All other tissues excepting the spleen had lower radio-active counts than did the plasma but higher counts than would be attributable to the vascularity of the given tissue. By complex radioimmunologic techniques it was determined that 70-80 per cent of the radioactivity found in the kidneys and liver maintained its immunologic characteristics.

It is of interest that the "growth promoting" activity in *in vitro* experiments with rat cartilage is limited

to the sera of normal, GH treated hypophysectomized mammals, or hypersomatrophic individuals and that GH itself has no activity when added directly to the media.

The Metabolic Effects of Growth Hormone

WATER: It has been reported that there is an increased glomerular filtration rate (GFR) and renal plasma flow (RPF) on the basis of body surface area. However, D. Ikkos determined that the GFR and RPF were not increased when using the volume of intracellular water as a reference standard. By a series of determinations using deuterium measurement of total body water and inulin, bromide 82, and sodium 24 measurement of extracellular water, he found that extracellular water was increased up to 40 per cent in acromegaly and that the ratio of extracellular to intracellular water was 1.7 times higher in the disease. Connective tissue contains the largest quantity of extracellular water by weight relative to other tissues. There is considerable increase in the body content of collagen and ground substance in acromegaly, and connective tissue contains considerable hyaluronic acid which is extremely hydrophilic. This suggests some factors for increased extracellular water.

PROTEIN: HGH is found to cause a positive nitrogen balance, decreased blood urea nitrogen, and decreased urinary ammonium, at least initially, when administered to normal adults. The earliest evidence of GH effect on nitrogen metabolism is a fall in the BUN within 6 to 24 hours of injection. The minimal daily dosage of GH to cause detectable nitrogen retention is 2 mgm. per day and dosages of 10 mgm. have been found to cause two to four grams of nitrogen retention in the normal adult and up to eight grams in the pituitary dwarf. This is interesting in that the average, growing, nine-year-old boy has a nitrogen retention of only 0.25 grams a day and the growth exhibited by the famed Alton giant would require only 0.8 grams per day. Using 0.2 mgm. to 10 mgm. of HGH daily in five pituitary dwarfs, aged 6 to 15.5 years, Henneman demonstrated that the maximum daily retention of nitrogen was the third to sixth day of treatment (4.5-8 grams daily) and that nitrogen retention began to wane after six to nine days (40-60 grams of nitrogen retention) becoming nearly undetectable after thirty days of treatment. Such is probably the case with nitrogen retention in the normal adult on unphysiologic doses of GH. Whether the nitrogen retention is due to decreased protein catabolism and increased protein synthesis, or both, is not entirely known; but both a GH effect of increasing intracellular concentrations of amino acids and an increased rate of synthesis of protein has been suggested.

CARBOHYDRATE: The association of acromegaly and diabetes mellitus is well known. In a review of

100 cases, Gordon, *et al.*, found diabetes or a decreased glucose tolerance in 47 patients and in most cases the diabetes developed a considerable duration after diagnosis of acromegaly.

Zahnd demonstrated an initial hypoglycemic activity of HGH (5 mgm.) in normal male adults decreasing blood sugar by up to 25 mg. per cent. The insulin-like activity of the sera was determined and found to be little changed, indicating the hypoglycemia was not mediated through stimulatory effect on the Islet cells and that the effect was due to GH itself, or of some other substance in response to GH. D. Ikkos *et al.*, administered the unphysiologic dose of 30 mgm. HGH for three days to 11 normal patients and could not demonstrate a decrease in peripheral utilization of glucose, though a decrease in glucose tolerance was observed. However, in a similar experiment using hypophysectomized women, D. Ikkos, *et al.*, induced excessive fasting and postprandial blood sugars and glycosuria, as well as nitrogen retention which is unlike idiopathic diabetes mellitus. These findings returned to control levels when the GH was discontinued and are interpreted as demonstrating an idiohypophysial diabetes mellitus. Using C-14-glucose on these more GH sensitive individuals, depression of peripheral glucose metabolism was found. These experiments were interpreted as suggesting the decreased peripheral glucose utilization being due to insulin antagonists. The use of C-14-glucose did not elucidate a cause for the decreased glucose tolerance with findings of unchanged peripheral glucose utilization found in the preceding experiment.

Manchester, *et al.*, demonstrated inhibition of insulin on glucose uptake by *in vitro* rat diaphragms from GH treated hypophysectomized rats, which also suggests a pituitary dependent antagonist of insulin. K. W. Taylor, *et al.*, fractionated the serum proteins of normal humans by zone electrophoresis and detected insulin in fractions containing alpha-1, beta-1, and gamma globulins by their stimulatory effect on the glucose uptake by normal rat diaphragm. The findings with alpha-2 globulins were inconsistent and sub-fractionation indicated that certain of these inhibited the uptake of glucose by rat diaphragm. Alpha-2 globulins isolated from hypophysectomized and panhypopituitary individuals had no such antagonism of glucose uptake, indicating that the inhibition is pituitary dependent. GH added *in vitro* did not inhibit glucose uptake. The above experiment suggests that the insulin antagonist is either a product of *in vivo* alteration of GH itself or is due to some substance released by influence of GH.

It is concluded that persistent excessive somatotropin is definitely diabetogenic in man. Its alteration on carbohydrate metabolism may be closely associated with changes in fat metabolism as will be elucidated

in the following section. Despite the diabetogenic effect of HGH, D. Ikkos, *et al.*, found that the glucose tolerance test cannot be used as an index of GH activity in acromegalics as there was no correlation with accepted assays of the disease.

FAT METABOLISM AND INTERMEDIARY METABOLITES: GH is said to promote the following: increased mobilization of fatty depots; increased plasma free fatty acid (FFA) levels; increased malate, citrate, and pyruvate levels, decreased BUN, and to be "ketogenic." All the above effects except BUN can be elicited to some degree by fasting alone, and can best be explained by decreased glucose utilization. Single large doses of HGH produce marked accentuation of the rise in plasma FFA and ketone levels. Administered in the fed state, it produces grossly abnormal elevations in glucose, citrate, pyruvate, and FFA. These effects suggest that HGH accelerates the mobilization of fat and decreases the utilization of glucose. The decreased utilization of glucose in acromegaly may result in decreased ability of enzymatic mechanisms to synthesize depot triglyceride from FFA, as it has suggested that the rate of glycerophosphate formation controls the rate of triglyceride synthesis. It has also been emphasized that the TPNH and DPNH formation during glucose utilization is rate-limiting for fatty acid synthesis and for net conversion of keto acids to amino acids. Therefore, there is a reduction in the disposal of acetyl CoA through fatty acid synthesis in decreased glucose utilization, and the increase in citrate indicates a block in the Krebs' cycle at some point beyond citric acid, the Krebs' cycle being the other route of disposal of acetyl CoA. The decreased disposal of acetyl CoA is reflected by increase in pyruvate levels and increases the production of ketones. The increased pyruvate levels result in the increased formation of malate through an alternate pathway of pyruvates disposal. Increased levels of HGH promote mobilization of fat depots, and produce ketosis through decreased glucose utilization and alterations in intermediary metabolites by a block in the Krebs' cycle, the basis of which is not defined. Unlike prolonged fasting alone, GH produces a fall in BUN which is attributed to its anabolic effect on protein synthesis, sparing diamination of amino acids. D. Ikkos, *et al.*, found no increases in intermediary metabolites, i.e. pyruvate, in acromegalics and suggested that such elevations may be acute responses to excessive GH. Likewise, urinary levels of pyruvate, citrate, and malate are not elevated in idiopathic diabetes mellitus. The effects of large doses of HGH in man on fat metabolism and intermediary metabolites have been presented. How many of these effects are only due to the acute nature of administering HGH to humans and how many of the effects are actually present in chronic hypersomatotropism is not known.

It is seen that GH may have many complex effects on protein, carbohydrate, and fat metabolism and that the separation of the three, particularly carbohydrate and fat metabolism, is purely arbitrary for simplification of discussion.

ELECTROLYTE METABOLISM: In balance studies, the amount of potassium, magnesium, and phosphorus retained is approximately as would be calculated from that expected to be associated with nitrogen retention. Sodium retention is considerably in excess of the expected quantity relative to the above electrolytes. The response of calcium to administered GH is inconsistent. Excessive GH administered to normal adults resulted in hypercalciuria. However, GH administration to pituitary dwarfs with closed epiphyses resulted in calcium retention during administration and in pituitary dwarfs with unclosed epiphyses, resulted in the most marked calcium retention after discontinued therapy. Simultaneously, there was an increase in urinary calcium in some dwarfs of both groups.

MISCELLANEOUS: Alkaline phosphatase showed no consistent response to GH administration.

The basal metabolic rate was found to be increased an average of +10 per cent in acromegaly as calculated from cell mass of the body and +20-25 per cent if calculated from body surface area.

Diagnosis of Acromegaly

The commonest early symptoms of acromegaly are those related to coarsening of the features and enlargement of the extremities, menstrual disorders, headache, fatigue, arthritis, excessive perspiration, heat intolerance, and less commonly, visual disturbances, polyuria and galactorrhea. Common presenting signs are coarse features, enlarged extremities, defects in the visual fields, hypertension, arthritis and less frequently hirsutism, exophthalmos, and gonadal atrophy as determined from a review of 100 cases by D. A. Gordon, *et al.* Interestingly, 30 of these patients, previously undiagnosed, presented because of complaints unrelated to acromegaly and were grossly acromegalic to inspection. Apparently all acromegalics who present themselves for diagnosis of symptoms referable to their disease will be acromegalic to inspection. The difficulty is in establishing a diagnosis in a suspected early case or to ascertain resumption of hypersomatotropism in a previously treated patient. Such crude evaluations as fluid displacement of extremities are of little value in following a patient and an accurate laboratory evaluation of GH activity is desirable.

The size and complexity of the GH molecule and its solely amino acid content precludes existence of any simple specific properties that have analytic potential as exists with the steroids; therefore, bioassays are used to determine GH activity.

Until recently, the only valuable assay of growth hormone was increase in weight or tail length of the hypophysectomized female rat whose growth had plateaued in response to HGH. The total dose of hormone required is large and the assay requires up to two weeks. An improvement was measurement of the width of the epiphyseal plate of the tibia of hypophysectomized rats after four days of HGH administration. The minimum sensitivity is 5 micrograms of GH, but this assay, though faster and more sensitive, is not sensitive enough to detect the presence of GH in the sera of normal human adults.

In 1957, Salmon and W. Daughaday reported that the *in vitro* incorporation of S^{35} by cartilage from rats is reduced if the "donor" rats have been hypophysectomized and that this activity could be restored if GH were administered to the hypophysectomized rats. Likewise, sera from normal rats was noted to increase S^{35} uptake *in vitro* of cartilage from "donor" rats. Therefore, it was concluded that the sera contains a GH dependent factor which induces S^{35} uptake by cartilage *in vitro*, the sulfation factor. In 1959, W. Daughaday, *et al.*, used normal, acromegalic, and hypopituitary individuals to devise an assay for GH based on the sulfation factor (SF). The SF was found sensitive enough to detect the presence of GH in the sera of normal adults. The radiosulfate uptake by cartilage *in vitro* reflects the sulfation of chondroitin. Sven Almquist found SF activity in normal children above the ages of one month; however, the SF activity was found to be low in infants from one to six months of age and equal to the SF activity of pituitary dwarfs. By treating pituitary dwarfs with HGH of varying dosages, Almquist demonstrated a significant linear relationship between the SF activity of the sera and the logarithm of the dose of HGH given. The SF activity appears to be a reliable and reproducible bioassay for serum GH levels.

A hemagglutination inhibition assay for GH has been developed, but the lack of reproducibility of determinations on given serum samples has precluded the valuable laboratory test. It has since been determined that the sera contains non-specific inhibitors to hemagglutination and therefore give varied and falsely high GH determinations in the hemagglutination inhibition procedure for GH levels. Radioimmunoassay of GH has been developed more recently and is quite sensitive relative to older methods. This procedure has been used to establish the normal adult serum GH at about 10 millimicrograms/ml.

Summary

Human growth hormone has been isolated and found to be constituted entirely of amino acids. Its

(Continued on page 337)



Chronic Hypertension, Blindness, Hemiparesis and Paresthesias

THE FIRST KUMC admission for this 37-year-old Negro housewife was in June, 1956, with the chief complaint of weakness and numbness of the right arm and leg for 18 hours.

The patient considered herself to be in good health until 8:00 o'clock one morning when, while doing housework, she experienced a sudden onset of weakness with numbness of the right arm and leg. She did not have pain, headache, nausea, dizziness, or convulsive movements. She had had some blurring of vision in the left eye for three months, and there had been some lateral divergence of the left eye for three weeks. She had occasional slight headaches in the past.

She had an appendectomy in 1948. Eighteen years previously she had swelling of her legs, high blood pressure, and two or three convulsions with the home delivery of her first child. Two years later she delivered her second child without apparent incident. Her menarche was at age 11, and she spontaneously stopped menstruating when she was 24 years old.

The patient was married with two children. She worked in a cafeteria. She did not smoke or drink. Her father was alive and well at the age of 70. Her mother died at 50 of "change of life."

Her blood pressure was 240/150 in each arm. The pulse rate was 72, and the rhythm was regular. The patient was an obese Negro woman who was apathetic but she had a good memory. The left pupil was larger than the right, and did not respond to light. There was a grade III hypertensive retinopathy with fresh hemorrhages in the left eye; and there were large exudates bilaterally. The chest was clear. There was a grade I systolic murmur heard over the entire

precordium. The abdominal examination was non-contributory. There was weakness of the right arm and leg with preservation of movement. There was no impairment of speech or facial involvement. Babinski's sign was absent. There was unsustained clonus on the right.

The hemoglobin was 11.2 Gm. per cent; white blood count, 7,100 with 70 per cent neutrophils, 25 per cent lymphocytes, 1 per cent eosinophils, 4 per cent monocytes, and 286,000 platelets. The specific gravity of the urine was 1.010. There was one plus albumin but no sugar. The microscopic examination revealed 47 pus cells per high power field and a few hyaline and granular casts. The VDRL was nonreactive. The serum creatinine was 3.0 mg. per cent; urea nitrogen, 29 mg. per cent; fasting blood sugar, 75 mg. per cent; sodium, 141 mEq.; potassium, 4.3 mEq.; CO₂, 26.1 mEq.; chlorides, 101 mEq. per liter. PSP retention was 38 per cent. The urine concentrated only to 1.010. The venous pressure was 10.8 cm.; arm-to-tongue circulation time was 16 seconds. The opening pressure of the lumbar puncture was 24.5 cm., and the closing pressure was 18.5 cm. of water. Crystal clear fluid was obtained, and it contained two leukocytes and no erythrocytes. Spinal fluid sugar was 68 mg. per cent; serology, negative; total protein, 41 mg. per cent; colloidal gold, 0122100000; and cultures were negative for bacteria.

The patient was treated with anti-hypertensive medications with control of the blood pressure in a range from 150/110 to 120/80. There was some return of strength of the right arm and leg. She was discharged on anti-hypertensive medications and a low salt diet after 29 days.

The second KUMC admission was 18 days after her previous discharge with a complaint of weakness and dizziness for 24 hours. Since her last admission, the patient had had progressive anorexia, and had drunk very little water. Twenty-four hours before admission she became quite lethargic, confused and

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restless. She complained of vertigo on assuming the erect position.

The blood pressure was 210/130 supine, 180/120 sitting, and 140/90 erect. The breath had a uremic odor. A left external strabismus was present. There was grade III hypertensive retinopathy with exudates and silver wiring, but there were no fresh hemorrhages. There was no peripheral edema.

The specific gravity of the urine was 1.005; albumin, one plus; sugar, negative. There were one to two pus cells and three to four red cells per high power field with occasional waxy and hyaline casts. The serum urea nitrogen was 24.1 mg. per cent; creatinine, 1.8 mg. per cent; uric acid, 3.8 mg. per cent; and ammonia, 126 micrograms. The sedimentation rate was 30 mm. in one hour.

After ten days the patient was discharged with essentially the same blood pressure as on admission.

The third KUMC admission was in December, 1956, with the complaint of headaches, dizziness, and trouble seeing.

The patient had not kept her clinic appointments during the intervening five months. Two days before admission she was seen in the emergency room complaining of sudden, severe, frontal headache associated with some light-headedness. That afternoon she had some sudden blurring of the vision in the right eye. In the emergency room her blood pressure was 230/150, and she was told to stay in bed. She returned two days later somnolent, and was admitted to the hospital. She complained of dizziness on any change of position.

The blood pressure was 260/170 supine, and 230/160 standing. Blood pressure in the right leg was over 300 mm. systolic. The pulse rate was 80. The patient was a chronically ill, somnolent, Negro woman. The left pupil was larger than the right, and did not react to light directly but did consensually. There was bilateral occlusion of central retinal arteries (partial on the right, complete on the left) with optic atrophy on the left. The lungs were clear. The heart had a regular sinus rhythm with the point of maximal impulse 8 cm. to the left of the midsternal line. The second heart sound had a tambour quality. A grade III apical systolic murmur was present. The abdomen was negative for masses, tenderness or rigidity. There was peripheral edema.

The pH of the urine was 5.0; specific gravity, 1.010; albumin, two plus; sugar, negative. There were 10 to 20 pus cells and two to three red cells per high power field together with three to five pus casts and one to two hyaline casts. Blood nonprotein nitrogen was 52 mg. per cent; urea nitrogen, 33.5 mg. per cent; CO_2 , 21.2 mEq.; sodium, 140 mEq.; potassium, 4.3 mEq.; and chloride, 109 mEq. per liter. Blood ammonia was 136 micrograms per cent. Alkaline

phosphatase was 2.1 units; total bilirubin, 0.6 mg. per cent; bromsulphalein retention, 18 per cent; cholesterol, 286 mg. per cent; total serum proteins, 7.52 per cent; albumin, 5.2; and globulin, 2.32 Gm. per cent. Tuberculin and histoplasmin skin tests were negative in 48 hours.

Under treatment the blood pressure was controlled to a level of 180/130 supine and 140/100 standing. After 18 days the patient was discharged from the hospital on anti-hypertensive medications, a low salt diet, and with instructions to return to the clinic in two weeks.

The fourth KUMC admission was in June, 1962, with the complaint of headaches and abdominal pain of two months' duration.

The patient had been followed in the outpatient clinic with control of the blood pressure at about the same levels as during hospitalization until January, 1959, when she was last seen in the clinic with a blood pressure of 162/110. She was next seen in the emergency room in May, 1962, complaining of headaches, confusion and abdominal pain, and was admitted to the hospital. About two to three months before this admission, she began having constant, severe, throbbing headaches. She had some postprandial cramping abdominal pain associated with vomiting. She became more lethargic and was unable to be aroused in the morning. She had been completely blind for two years.

The blood pressure was 170/120; pulse, 72; respiration, 22. She was a lethargic woman who was difficult to arouse. Her pupils did not react. She complained of pain whenever the right eyelid was opened. Funduscopic examination on the right showed a white disc, silver wiring and old exudates. There were no fresh hemorrhages. The left fundus showed silver wiring and an extremely avascular and blanched retina. The chest was clear. The heart had a regular sinus rhythm without murmurs or cardiomegaly. Nothing abnormal was found in the abdomen. There were slightly hyperactive reflexes on the right, and a questionable right Babinski sign was found. There was diminished pain sensation of the right lower extremity, and unsustained clonus in both ankles.

The hemoglobin was 12.2 Gm. per cent; hematocrit, 40 per cent; white blood count, 5,430 (with 53 per cent neutrophils, 41 per cent lymphocytes, 4 per cent eosinophils, and 2 per cent monocytes); platelets, 221,000; and reticulocytes, 2.6 per cent. Sick cell preparations were negative. The urine pH was 7.0; specific gravity, 1.010; albumin, 2 plus; sugar, negative. The urine was loaded with bacteria, and occasional pus cells. The blood urea nitrogen was 52 mg. per cent; creatinine, 3.2 mg. per cent; CO_2 , 19.2 mEq.; sodium, 140 mEq.; and chloride, 107 mEq. per liter. Total serum proteins were 8.3 mg. per cent;

albumin, 4.13 mg. per cent; globulin, 4.18 mg. per cent; cholesterol, 327 mg. per cent and cholesterol esters, 27 mg. per cent. The L.E. cell preparation was negative.

The patient gradually became weaker and more lethargic. The blood urea nitrogen increased to 109 and the creatinine to 9.5 mg. per cent. On the ninth hospital day she continued to complain of the severe headache, vomited after ingestion of almost any fluid, and developed intractable hiccups. Her blood pressure was 190/120. That afternoon she had a grand mal seizure with a clonic phase predominant. The following day she had gross hematuria throughout the day. On the eleventh hospital day she developed Cheyne-Stokes respiration. Her tongue became edematous, and a tracheostomy was done. The breathing became quieter, but the Cheyne-Stokes respiration continued. Three hours later she died quietly.

Dr. Mahlon Delp (moderator): Are there any questions of Dr. Matter?

Richard Loeb (student)*: Were skull films and arteriograms done?

Dr. Billy Joe Matter (resident in medicine): Arteriograms were done during the first admission.

Fred Faas (student): I would like more information on the patient's weight on admission, her final weight, and the distribution of her obesity.

Dr. Matter: Her weight ranged from about 125 to 135 pounds. It was fairly constant on each admission.

Leroy Hunninghake (student): How tall was she?

Dr. Matter: She was under five feet tall.

John Feighner (student): Is it known whether the patient had continuous high blood pressure after the second pregnancy?

Dr. Matter: We do not know anything about her blood pressure until her admission here.

Mr. Loeb: Did the patient have any masculinization when she was first examined here?

Dr. Matter: No.

Mr. Faas: Were visual fields done on her first admission?

Dr. Matter: No.

Mr. Hunninghake: Did her amenorrhea continue to her last admission?

Dr. Matter: Yes.

Mr. Feighner: Were there ever any urinary steroids, catecholamines, urinary electrolytes, thyroid function tests done?

Dr. Matter: Urinary electrolytes were the only

ones of these that were done and they were essentially normal.

Mr. Loeb: On her fourth hospital admission was there any evidence that the patient had had trauma?

Dr. Matter: No.

Mr. Loeb: Had the patient been jaundiced?

Dr. Matter: No.

Mr. Faas: Did you find any blood in her stool on the last admission?

Dr. Matter: I do not think it was tested.

Mr. Faas: Was a muscle biopsy done?

Dr. Matter: No.

Mr. Hunninghake: Was a bruit described at any time?

Dr. Matter: No.

Mr. Feighner: Was this patient incontinent on the last admission?

Dr. Matter: She was very lethargic, and there is a question about whether there was incontinence or whether she just did not care.

Mr. Loeb: Was a serum potassium done on the last hospital admission.

Dr. Matter: Yes, it was 4.0 mEq. per liter.

Mr. Loeb: What was her alkaline phosphatase?

Dr. Matter: It is not recorded.

Question from the audience: Were blood sugars done, and if so what were they?

Dr. Delp: She had one blood sugar of 137 mg. per cent. All other fasting blood sugars were normal.

Electrocardiograms

Mr. Hunninghake: We have three electrocardiograms on this patient. The first one was taken on admission on July 14, 1956. At this time we see a normal sinus rhythm with a rate of approximately 75. The P-R interval is within normal limits. There is a little sagging of the S-T segment in lead I. There are also some nonspecific T wave changes in V₄ and V₅. The QRS axis has always been the same, about 30 degrees. In the next tracing we again see a nonspecific S-T segment depression in V₁ and V₂. We see a little increase in the flattening of the T waves over the chest leads. Again the P-R and Q-T intervals are within normal limits. The last electrocardiogram (*Figure 1*) was made ten days before her death. It essentially shows the same axis deviation. One thing we might note is that, in the leads taken at half-standard, the amplitude of the R wave is perhaps a little over the upper limits of normal. Again we see the inversion of the T waves and the nonspecific sagging of the S-T segment. I interpret these electrocardiograms as showing nonspecific T wave changes compatible with ischemia and possible left ventricular hypertrophy.

* Although a student at the time of the conference in December, 1962, he, like the others referred to as students, received the M.D. degree in June, 1963.

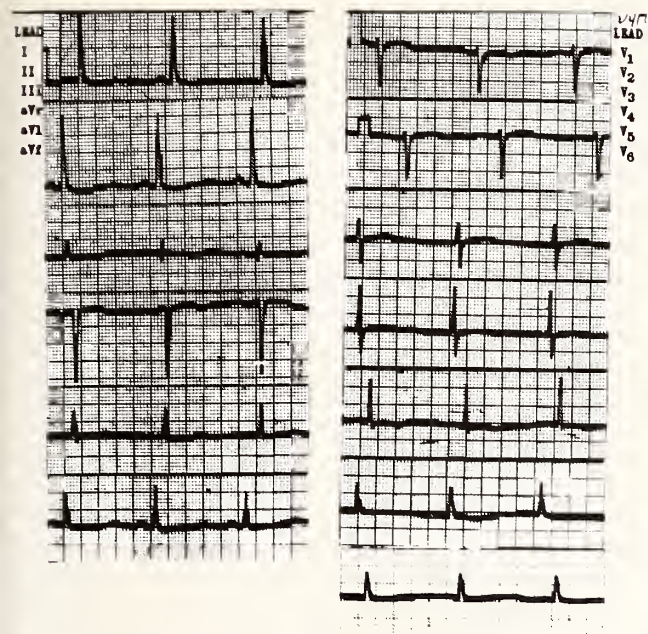


Figure 1. Electrocardiogram made ten days before the patient's death.

X-Rays

Mr. Loeb: All of the x-rays were taken on the last admission, May, 1962. The PA of the chest in relation to the bony structure gives a hint of some decrease in density. The general lung fields are not striking. The parenchyma shows some increased bronchovascular markings. There is some prominence of the aorta. The heart is of normal size. The costo-vertebral angles are not remarkable and the diaphragms themselves are normal. The lateral view of the chest shows some increased tortuosity of the aorta. No particular enlargement of the heart is seen, and the diaphragms are again unremarkable. There is some relative increased density on the growth line which means there is decreased density of the bone itself. I interpret these as showing a normal chest with nonspecific, decreased density of bone consistent with osteoporosis. In a KUB taken at the same time we see decreased density of the bone, and the kidneys appear to be somewhat small. The psoas shadows are seen and there appears to be some increased size to the bladder. An intravenous pyelogram taken at the same time, May 25, is shown in Figure 2. The remarkable thing here is some dye which can be seen coming down the right ureter. There is some decrease in function. The left kidney is not visualized. I interpret this as showing non-function of the left kidney. This is a planogram which is again difficult for me to make out, but the kidneys are visualized. They appear to be in the correct position and they appear to be small.

Dr. Delp: Dr. Germann do you have any comments about these?

Dr. Donald R. Germann (radiologist): I just

want to add one or two points. You have done a very good job in discussing these films. The planogram was included to show that the patient did have both kidneys.

Dr. Delp: This patient was under observation for seven years in our outpatient clinic and hospital. I was interested in going over the progress notes made by the various residents of medicine. I found signatures of several who are now faculty members and distinguished practitioners, and several of them are here today. I have their signed statements as to their management of this patient. I am going to ask Mr. Feighner to give our initial discussion; then I think we will call on Dr. Stegmann, Dr. Berry, Dr. Dunn, and several others if time permits.

Discussion

Mr. Feighner: The case selected for discussion today is that of a 43-year-old, obese, Negro housewife who was first seen at KUMC in June, 1956. There were three subsequent hospital admissions, the last being in May, 1962. The differential diagnosis is based on the following signs and symptoms: marked hypertension of long duration with an episode of edema and convulsions associated with her first pregnancy, progressive visual disturbance terminating in blindness three years before her death, right-sided hemiparesis with sensory disturbance, obesity, apathy



Figure 2. Intravenous pyelogram made during the patient's last admission.

progressing to somnolence, and terminal renal failure. Owing to the varied symptomatology presented we find it necessary to consider multiple etiologies for the listed symptoms. Hypertension was the most prominent finding so we shall first consider its etiology. On the basis of persistently high systolic and diastolic pressures we exclude those disorders that cause only an elevated systolic blood pressure, and limit our discussion to those that cause severe diastolic hypertension. Because of the elevated leg blood pressure we can ignore coarctation of the aorta. Because of lack of the appropriate laboratory and physical findings we can safely exclude the following endocrine abnormalities: aldosteronism, Cushing's disease, and acromegaly even though we do not have urinary steroids. Another cause of hypertension can be the circulation of abnormal amounts of potent neurohumoral vasoconstrictors such as serotonin, epinephrine, and norepinephrine. We rule out carcinoid syndrome and pheochromocytoma because of an atypical history, but we do not have supportive laboratory findings. We also realize that pheochromocytoma can cause sustained rather than episodic hypertension.

Next, we will consider the collagen diseases and their relationship to hypertension. Of these we exclude systemic lupus erythematosus on the basis of lack of cutaneous, hematological, gastrointestinal symptoms, arthritis, and fever. A negative L.E. cell preparation, even though there was only one recorded, also helps us to this decision. A diagnosis difficult to overlook is periarteritis nodosa. Several features of this entity demand attention such as the hypertension that is present in anywhere from 25 to 50 per cent of these cases, renal dysfunction, and central nervous system involvement. Lack of fever, leucocytosis, pulmonary disease, joint disease, polyneuritis, polymyositis, and eosinophilia together with the length of the illness militates against this diagnosis.

Next under consideration in the etiology of her hypertension is eclampsia. There is a spectrum of clinical opinion, but we may avoid getting lost in a forest of statistics because we cannot say with any assurance that this patient had eclampsia. We think, however, that her history was compatible with this. Pre-eclampsia and eclampsia are diagnoses that are made in a clinical situation where one can follow the patient's blood pressure, kidney function, etc. We believe that our patient had an episode of eclampsia or toxemia of pregnancy at the age of 19 years, and that this may have been evidence that she either had pre-existing unrecognized hypertension at that time or a hypertensive diathesis.

The next diagnosis that we will consider is called the commonest cause of combined systolic and diastolic hypertension. This is essential hypertension which has been considered by many investigators to be a

familial disease with a possible autosomal dominant transmission. This diagnosis is one of exclusion of known causes of hypertension. This illness accounts for approximately 85 per cent of all diagnosed hypertension with the usual age of onset between the ages of 30 and 50 years. This diagnosis is impossible to exclude, especially with the family history of the early death of the patient's mother. Some studies show an incidence of hypertension in around 50 per cent of offspring of parents who are both hypertensive and only three per cent in children of normotensive parents. Because there is extreme variation in the evolution of this disorder, the prognosis in a given patient is difficult to determine. The onset is generally insidious, the patient being unaware of the illness until being informed of an elevated blood pressure. Inter-mittent diastolic hypertension may precede a constant elevation for many months or years. When followed from onset to death the average patient lives 20 years, usually spending three fourths of this time in an uncomplicated phase. This is followed by rapid or slow transformation to a period of complications in one or more organ systems with a different rate of progression. The variability of this disorder is indicated by the fact that an accelerated form may develop *de novo*, with death in a matter of months, whereas some patients with the non-accelerated form survive for years. The complications of this disease express themselves systemically as was seen in our patient. We find it impossible to rule out this disorder.

Now we come to the final group of diseases in our differential diagnosis of hypertension in our patient. Renal disease is being recognized with more frequency as a cause of hypertension, especially since Goldblatt's experiments in 1934, and recently accelerated by the advent of differential renal studies, renal scans, aortography, and renal biopsies. Unfortunately our patient had very few or none of these. The following renal diseases must be considered: acute and chronic pyelonephritis and glomerulonephritis, polycystic disease, polyarteritis nodosa, systemic lupus erythematosus, post-renal obstructive lesions, Kimmelsteil-Wilson's disease, irradiation nephritis, multiple myeloma with amyloidosis, and vascular malformations of the renal arteries—either congenital or secondary to atheromatous change. Polycystic disease is ruled out by the lack of characteristic x-ray changes, because there was no palpable abdominal mass. The collagen diseases have been dealt with previously. Kimmelsteil-Wilson's disease can be ruled out by lack of evidence that the patient had diabetes mellitus (although there was one elevated report), and the absence of retinal micro-aneurysms. There was no history to substantiate the diagnosis of irradiation nephritis. Multiple myeloma as a cause of hypertension is unlikely because of a lack of abnormal

proteins on the early admissions. On the final admission, however, she did have an elevated serum globulin, but we do not have serum electrophoretic patterns of that. She had some general osteoporosis. Also, the patient did have an "edematous" tongue on the last admission, but we believe that we have a better explanation for her edematous tongue.

The acute forms of glomerulonephritis and pyelonephritis are eliminated from our consideration because of the chronicity of her disease. It is not possible to rule out chronic glomerulonephritis, chronic pyelonephritis, or vascular malformations of the renal artery as all three can result in an end-stage kidney which our patient undoubtedly had. On the basis of frequency of incidence I believe the most likely cause for the hypertension in our patient is secondary, bilateral, chronic pyelonephritis of a subclinical nature.

Although we are able to explain most of our patient's symptoms on the basis of hypertension and its complications, we feel that an additional diagnosis must be considered to explain some of her symptoms. The obesity (although not marked), the amenorrhea, the somnolence, and the neurological signs (particularly the ocular symptoms), and the rapidly progressive decline of the patient during the fourth admission could well be explained on the basis of a pituitary or hypothalamic lesion. This could be either a solid tumor, a cystic tumor, or a vascular lesion. We exclude such vascular formations as angiomas or arterio-venous fistulas because of their infrequency and lack of bruit; and, of course, we have no skull films. We rule out glioma of the optic chiasm, meningioma of the tuberculum sellae, suprasellar epidermoid tumor, and chordoma because of rarity of these lesions and the lack of the really typical initial symptoms in this patient. The three most likely lesions that might cause the symptoms and signs that our patient had are craniopharyngioma, chromophobe adenoma, and a cavernous sinus carotid aneurysm with impingement on intrasellar substance and adjacent structures. The craniopharyngioma is slow-growing and usually distorts the sella, sometimes without erosion, and does not frequently have calcification when present in the adult. It may cause headache, failing vision, amenorrhea, mental sluggishness, and somnolence—all four of which our patient had. Chromophobe adenoma being much more common than craniopharyngioma may cause similar symptoms but usually erodes the sella turcica. These tumors need not cause elevated spinal fluid protein levels. The factors against these diagnoses are the lack of skull films and the inability to explain the hypertension.

In explaining some of the patient's symptoms we feel, as I said before, that most of them can be ex-

plained on the basis of hypertension. Her first episode could be explained on the basis of Weber's syndrome; that is, with involvement of the paramedian arteries off the basal artery on the left side. This would involve the oculomotor nuclei and also the cerebral peduncle and the descending tracts. This could have been due to an intracerebral hemorrhage, but it could also be explained on the basis of thrombosis or spasm. We feel that the blurred vision on the left was probably due to macular hemorrhage. The second admission could well have been brought about by therapeutic triumph secondary to the use of antihypertensive agents which manifested itself by severe orthostatic hypotension. The third admission could be very well explained on the basis of hypertensive encephalopathy, cerebral vascular insufficiency, or subarachnoid hemorrhage. From the available information, this is difficult to discern. The fourth hospitalization can be explained on the basis of one or more of the following: a subdural hematoma (the patient was blind and could easily have fallen at home), hypertensive encephalopathy, cerebral vascular occlusion, cerebral hemorrhage, or some lesion encroaching on the hypothalamus or infundibulum. The patient then terminated in renal failure with the clinical syndrome of uremia.

Dr. Delp: Thank you, Mr. Feighner. This patient was 58 $\frac{3}{4}$ inches tall. Does that make your statement that she was obese legitimate, Feighner? Or do you think that is stretching it a little?

Mr. Feighner: I think that it is stretching it a little.

Dr. Delp: She never weighed over 135 pounds in the seven years she was under observation. At times she weighed as little as 126 pounds. Your diagnosis, Mr. Faas?

Mr. Faas: Vascular hypertension secondary to unilateral renal disease. Very possibly vascular malformation.

Dr. Delp: Mr. Feighner?

Mr. Feighner: Essential hypertension.

Dr. Delp: Mr. Hunninghake, what is it you think the patient had the first time she came into the hospital?

Mr. Hunninghake: I think this first admission might very well be explained on the basis of her hypertensive disease. She might have had a thrombosis or a spasm of the small artery off her basal artery involving the oculomotor nucleus and the cortico-spinal tract. This would explain her eye signs and her numbness and weakness. If this was on the basis of her spasm, assuming that there is such a thing, it might have cleared up.

Dr. Delp: I notice in reading through the progress notes and consultations, that this patient's

eyes were examined almost every time she was seen. She was also seen by an ophthalmologist on a number of occasions. In 1957 the resident who saw the patient said that she had bilateral optic atrophy. Would you comment about this, Mr. Faas?

Mr. Faas: Bilateral atrophy can be due to many things. She could have had involvement of the optic artery alone, and this could cause optic atrophy without any retinal changes. This is on the assumption that we are not postulating an intra-cranial lesion.

Dr. Delp: Mr. Hunninghake?

Mr. Hunninghake: I think her eye signs initially on the left side are due to hypertension alone. But on the right side I think something must have been pressing on the optic nerve because the retina was not avascular but the disc was completely blanched. She had optic atrophy, but the blood supply was not cut off.

Dr. Delp: I assume that you feel that the patient died in uremia as a result of renal failure, Mr. Hunninghake?

Mr. Hunninghake: Yes, I do.

Dr. Delp: And you, Mr. Feighner?

Mr. Feighner: She was somnolent at the time she came in and at that time her blood urea nitrogen and creatinine were not greatly elevated; however, I think her blood urea nitrogen elevation and her creatinine elevation were compatible with terminal renal failure while she was here in the hospital.

Dr. Delp: Do you agree with this, Mr. Faas?

Mr. Faas: Yes.

Dr. Delp: And the explanation for the convulsions was?

Mr. Faas: Was the renal failure.

Dr. Delp: Do you think her convulsions were renal convulsions, Mr. Hunninghake?

Mr. Hunninghake: They also might have been due to a tremendously increasing intracranial lesion because she was so lethargic.

Dr. Delp: The patient had no papilledema, Mr. Feighner?

Mr. Feighner: She had had optic atrophy prior to admission. Subsequently, if she was developing an intracranial lesion at this time she could very well have not demonstrated papilledema.

Dr. Delp: Mr. Faas, do you go along with this?

Mr. Faas: Lesions in the pituitary and hypothalamic regions often do not give papilledema.

Dr. Delp: Dr. Steegmann, would you comment about this patient?

Dr. A. Theodore Steegmann (neurologist): There are several things from the history that are of interest. At the first admission the statement was made that her vision was blurred in the left eye, and she had developed lateral divergence. Now, one

would not develop lateral divergence merely because of blurred vision as one might with complete optic atrophy. The second thing that is of interest is the fact that she stopped menstruating 13 years previously, and this would suggest that there might be some local cause of that in an area where both the optic nerve and the third cranial nerve would be fairly close together. Then there was a description of weakness of the right arm and leg with preservation of movement and speech, but with facial involvement and an absent Babinski sign with unsustained clonus on the right side. I think that would perhaps point to something pressing against the peduncle rather than being up in the cortical region. On the basis of these observations I would favor the idea that this woman had a lesion in the region of the pituitary gland. It would be difficult to differentiate the several lesions without more information.

Dr. Delp: I meant to ask the students about some of the medication. The patient had been given a veratrum substance, and hydralazine. Now, can we have some further comments on that, Dr. Berry?

Dr. Maxwell G. Berry (internist): I do not know what was the matter with this woman, but there are a lot of things about her that strike me as unusual. I thought about the case only in a general way, and that is that this woman had hypertension and had evidence of considerable vascular disease. Perhaps she had something else. She had hypertension of such a degree that one must almost conclude that she had renal vascular disease. You seldom see blood pressure at this level with any other type of hypertension. If this is true, then it must have been congenital; at least it could well have been congenital vascular disease of the kidneys. I am also impressed with the patchy nature of the lesion and the fact that she had a thrombosis or occlusion of the central artery of both retinas. This would certainly go with vascular disease, but it would be a little bit patchy. I am at a little bit of a loss to explain her focal neurological lesion when she first came in here, and I do not think the situation has been altogether clarified by any neurological discussion to this point, and certainly I cannot clarify it either. There are only two things about neurology that I know for sure, and that is if you have double vision or a positive Babinski it usually means organic disease.

I think that the patient probably had so-called essential hypertension, but she had more than that. She had real bad hypertension, and not only did she have real bad hypertension, but she had it so bad that I think that it must have been due to renal vascular disease. I am very much intrigued with this pituitary tumor thing, but I am sure that if she had had a pituitary tumor somebody would have either

plowed into her head or they would have gone into the x-ray department with such abandon that we could have told about it or found it out even at this late date. So, I do not believe she had a pituitary tumor. She might have had a periarteritis nodosa. I will say this, and that is that I believe under the age of 50 one should follow the rule that the patient probably has one disease.

Dr. Delp: One of the ophthalmologists said this patient did have a bilateral central artery occlusion. I notice that one of the residents said that he did not believe that and wrote it down and signed his name to it. Dr. Dunn, do you have any comments about this patient?

Dr. Marvin Dunn (cardiologist): The comments that I have now are not the ones that I had before. I think that this is a very peculiar course for essential hypertension to take for several reasons. First of all the lady had this hypertension for a rather long period of time, and particularly for a long period of time after she presumably developed central nervous system lesions of rather significant magnitude. Secondly, after these signs developed, she lived for five years without going into heart failure and without developing severe uremia, which is a little bit unusual. Once they enter the phase of having central nervous system signs their decline is usually very rapid. So it would seem to me that there were two things going on here. If we keep with Dr. Berry's rule about patients in this age group having only one disease we must think of a disease that might produce hypertension and at the same time give rise to central nervous system signs and symptoms. The possibility of a pheochromocytoma needs to be discussed a little bit since about 75 per cent of these are associated with neural lesions, very frequently neurofibromata. This is not a very common place for this kind of neurological lesion to be located, but it is a possibility. So, to go out on a limb, I will say that she had a pheochromocytoma with a neurofibroma of the brain giving rise to the central nervous system signs.

Pathology Report

Dr. John Kepes (pathologist): We started to do this autopsy hoping that we would have an interesting case of hypertension that would fit the usual pattern. Not everything was very fitting. We expected a larger heart. After so many years of hypertension with such high systolic and diastolic values one would expect a very severe cardiac hypertrophy. The heart weighed about 305 Gm., and there was some hypertrophy of the left ventricle but it was not too significant. The kidneys were small; the right kidney weighed 100 Gm., the left kidney weighed 95 Gm.; and there was a fine granularity on the surface. The renal arteries

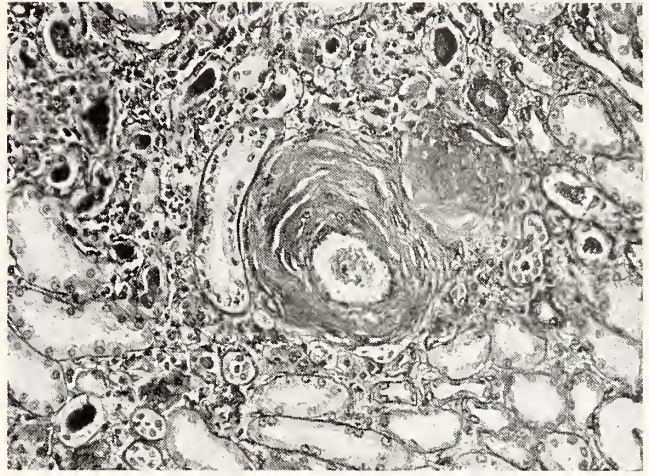


Figure 3. Small arteries in the kidney show thickening of the wall and splitting of elastic membranes of the media. (H.E.)

were not occluded or hypoplastic, and the renal veins were normal. The kidney showed some degenerating glomeruli. There was some coagulated proteinaceous material in the tubules. *Figures 3 and 4* show arterioles, and you can see the laminar hyperplasia of the wall characteristic of chronic hypertension. We do not see necrosis of the vessel wall which one finds in the malignant or accelerated form of hypertension. In places the kidney imitated the structure of thyroid tissue because of the colloid-like coagulation of the proteinaceous fluid in dilated tubules. This tubular change is frequently seen in cases of chronic pyelonephritis.

Even though the heart was not enlarged, the blood supply to the heart was compromised as is suggested by smaller and larger areas of fibrosis and scarring, but there are no areas of recent infarction present. The cardiac and renal changes did not satisfactorily explain this patient's death. There was no uremic

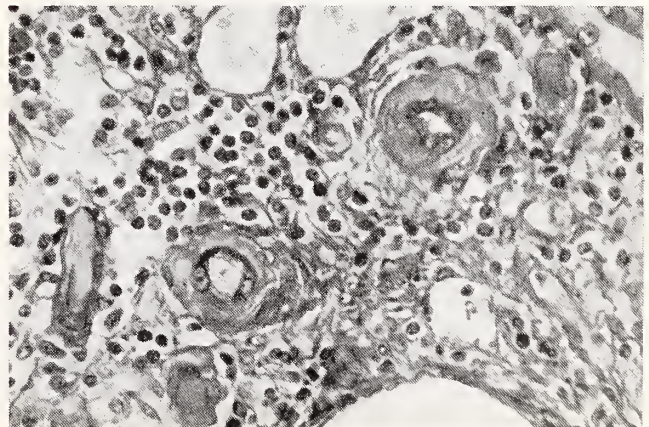


Figure 4. Arterioles in the same kidney show hyaline homogenization of their wall, characteristic of changes in hypertension.

pneumonia, pericarditis, or proctitis, much less any "uremic frost" on the skin.

We did, however, find some other changes in this patient. On opening the head we found a huge cystic mass occupying the base of the brain, the mass apparently having originated from the sella turcica (*Figure 5*). The sella was completely eroded by the huge cystic tumor mass. There was also herniation of the cerebellar tonsils and I think that contributed directly to her death, even though it probably developed gradually. The optic nerves were, of course, greatly compromised. A sagittal section of the brain (*Figure 6*) shows you the enormous size of this tumor, and its multicystic pattern. The tumor has compressed the floor of the third ventricle from below. *Figure 7* shows the histology of the tumor. It was a chromophobe adenoma by all routine criteria. The tumor was very cellular. The cells were small and had round nuclei, moderate pleomorphism, few mitotic figures, and rather scanty, agranular cytoplasm. In



Figure 5. A huge lobulated tumor mass occupies the base of the brain. Both 3d nerves are seen to penetrate into the tumor. The gross appearance of the tumor is characteristic of a chromophobe adenoma of the pituitary.

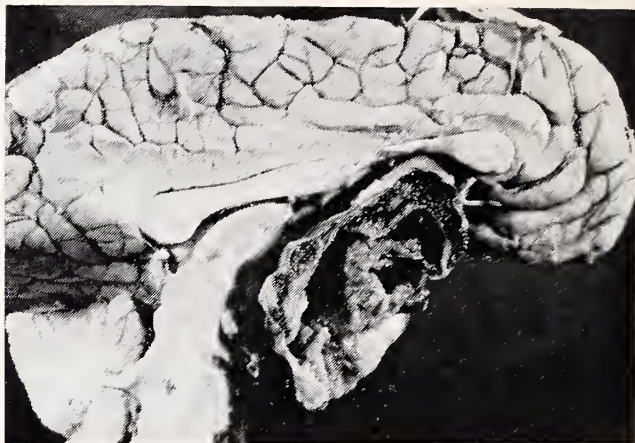


Figure 6. Sagittal section of the brain reveals the multicystic nature of the tumor and the obliteration of the third ventricle with pressure atrophy affecting even the corpus callosum.

some areas the tumor was papillary. These can sometimes be confused with papillary ependymomas. In some areas, however, the tumor cells contained eosinophilic granules (*Figure 8*). You can see scattered cells that have slight eosinophilic cytoplasm.

The optic chiasm was extensively demyelinated. This fact explains completely the bilateral blindness. The thyroid gland weighed only 17 Gm. and that is in line with a pituitary hypofunction.

She had not menstruated since the age of 24 and we were unable to find a single growing follicle in her ovaries. All we could find was fibrous tissue and here and there a little lonely primordial ovum surrounded by a few satellite cells, but certainly there is no sign of any further development. The endometrium was very thin, the glands were short, and there was no sign of proliferation. The adrenal was somewhat smaller than normal, but microscopically it did apparently contain the normal amount of lipid in the zona fasciculata.

This patient obviously then had two diseases. Is there any possibility to link the two together? Is there any possibility that a pituitary adenoma could have anything to do with her hypertension? A chromophobe adenoma usually obliterates hormonal functions of the pituitary gland, and you might have expected hers to be a hormonally functioning tumor: a basophil or an eosinophil adenoma. Some papers have been published lately, the latest one in the October issue of the *New England Journal of Medicine*, where a chromophobe adenoma caused Cushing's syndrome. This patient had a few features of this syndrome. She was possibly obese; she had osteoporosis; on one occasion she had glycosuria; and she had amenorrhea. On the other hand she did not have any basophils in her tumor. She had a few eosinophils. Let us not forget that in acromegaly, too, hypertension is a very

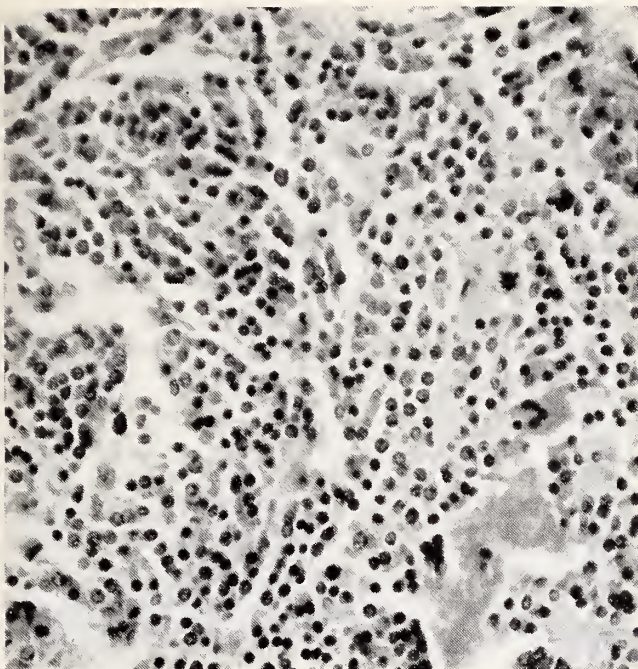


Figure 7. Sections from the tumor show the characteristic small cells with scanty cytoplasm and small round nuclei of a chromophobe adenoma. (H.E.)

prominent feature. We cannot prove, however, and I would not dare to postulate that in this particular case the adenoma was really causing the hypertension. I think it more likely that she suffered from essential hypertension.

It seems likely that the presence of the pituitary tumor combined with cerebral edema caused by uremia finally resulted in herniation of the cerebellar tonsils and the patient's death.

Dr. Delp: Thank you very much, Dr. Kepes. Does anybody have any final comments they would like to

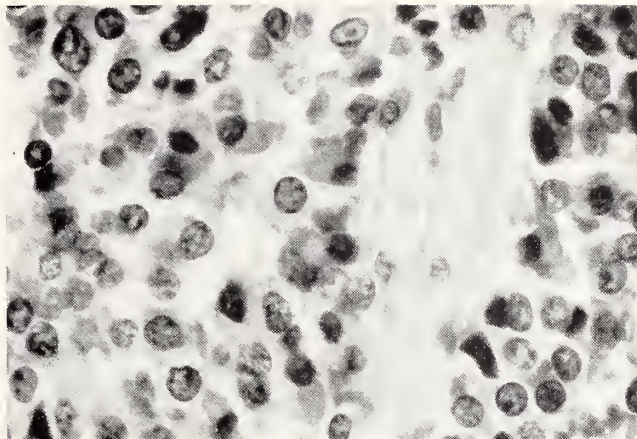


Figure 8. In a few areas of the tumor clusters of large tumor cells are seen which contain eosinophil granules in their cytoplasm. (PAS-Orange G.)

make? I think that it is very interesting that this is such a good example of how we can become pre-occupied and pass on from one individual to the next, a common error of failing to evaluate a patient completely because we are concerned with one disease entity. Patients with a long term illness, in this instance hypertensive vascular disease, so frequently have another disease or lesion unrecognized because we are blindly concerned about the first.

Pathologic Diagnoses

Chromophobe adenoma of the pituitary gland with compression of the base of brain and optic nerves.

Arteriolonephrosclerosis.

Atherosclerosis of the aorta, coronary arteries and cerebral arteries, moderate.

Multifocal fibrosis of the myocardium.

Old infarct in pons, small.

Student Thesis

(Continued from page 327)

complexity precludes simple analytical quantitation and therefore its activity must be measured indirectly by bioassay or tedious immunoassay techniques. Further, despite well documented research on the alterations which GH effects on intermediary metabolism, nothing is known of what controls its release from the pituitary.

Perhaps the low incidence of disorders attributable to GH abnormalities does not merit the quantity of literature given it, but GH disorders remain difficult to assess as to activity, both clinically and in the laboratory.

EDITOR'S NOTE: References may be obtained by writing the JOURNAL, 315 West 4th Street, Topeka, Kansas 66603.

Health and Safety Tips

(Continued from page 323)

First Aid Manual of the American Medical Association. It's not very difficult, but start immediately, even in the water; the victim can survive without oxygen to the brain for only a few minutes; with the victim's face up, pull the chin forward, make certain the windpipe is clear; put your mouth over the victim's mouth, pinch shut his nose, and blow; repeat 12 to 15 times per minute; keep it up until medical help arrives.

Most important of all to safe swimming—if you get into trouble in the water, don't panic. Float on your back and paddle gently. It's possible to stay afloat for hours, if you don't panic and wear yourself out with futile thrashing.

The President's Message

DEAR DOCTOR:

The responsibility of important decisions weighed heavily on the shoulders of the delegates to the American Medical Association meeting in New York City.

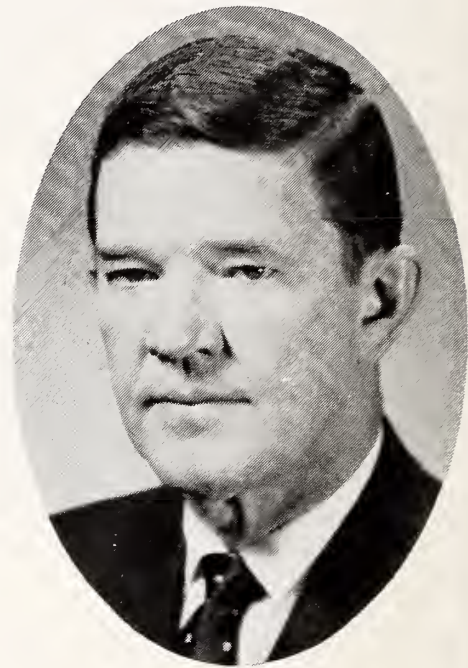
They did not shirk this responsibility but rather debated the issues long and vigorously producing decisions both deliberately and wisely. The House of Delegates concluded that caution and good individual judgment should be used in determining participation or non-participation in HR-6675 (and this judgment delayed until final passage of the bill); by resolution they opposed the involuntary employment by hospitals of any physician or group of physicians in actual practice; they voted opposition to the DeBakey Report; and they complimented the Board of Trustees on their vigorous defense of the freedom of American medicine, but scolded them for lack of information concerning long-range planning.

These and many other important subjects were thoroughly discussed in the great Empire City last week.

Sincerely,

George Burkett, Jr., M.D.

President





Editorial COMMENT

(The following is a monthly summary of Washington news prepared by the Washington office of the American Medical Association.)

The American Medical Association warned Congress that passage of the medicare bill could lead eventually to the troubles encountered in nations that have centralized government medical plans.

"The American system of medicine for generations has been a system of quality medicine, practiced through a voluntary relationship between patients and physicians, with doctors free to make decisions based on the patient's specific needs and nothing else," Dr. Donovan F. Ward, AMA President, told the Senate Finance Committee.

"Yet we have seen the trying problems in other lands and the results engendered by centralized government programs to provide health care for a large segment of the population," Dr. Ward declared. "Long waits, poor equipment and facilities, short, impersonal examinations, and lots of record keeping appear to be the major accomplishments of nationalized health systems. Can we hope the American plan will be so different as to negate all these adverse factors?"

He continued:

"We think not. Forget for a moment the staggering, though unpredictable, cost of the pending program. Ignore the administrative problems that it would create, and the burden it means for wage earners at the low end of the income scale.

"Look only at the intrusion of government in the field of medicine, which cannot be avoided if this measure is adopted. With the quantity of care thus restricted for the sake of controlling costs, the quality must deteriorate. The patient is the ultimate sufferer. But his disillusionment is shared by those who serve him. With the advent of state medicine, professional discontent appears to be the rule rather than the exception. Look again at the experience of the foreign programs.

"This may be our last chance to ask you to write

The Month in Washington

legislation which will meet the nation's needs and at the same time avoid the pitfalls of a government-financed, government-controlled, and government-oriented health care system. This may be your last chance to weigh the consequences of taking the first step toward establishment of socialized medicine in the United States," Dr. Ward concluded.

Continuing emphasis on vaccination against smallpox in the United States was urged by the AMA. Following announcement that a case of the disease had been discovered in Washington, D. C., the AMA declared that there was no basis for panic or alarm, and said that there was no need for emergency, mass vaccination campaigns.

The AMA said the effectiveness of endeavors of the American Medical Association, local medical societies, physicians, hospital administrations, and government health agencies to raise the level of immunity to smallpox through vaccination were challenged with the first case of smallpox reported in this country in 20 years.

"Because of the hazard of such importations of smallpox, a disease which can kill or maim, the AMA and others have advocated continuing vaccination programs in this country," the AMA said. "The danger was particularly emphasized over two years ago by Dr. Raymond L. White, director of the Division of Socio-Economic Activities of the AMA. Dr. White pointed out the need for 'defense in depth' through ongoing intensive vaccination programs for those who are apt to contact international travelers, and those who meet or treat the sick, in addition to the general public programs."

A Senate Aging subcommittee recommended that self-employed persons be given special tax incentives to encourage them to take part in private pension pro-

(Continued on page 365)

KaMPAC*

**Kansas Medical Political Action Committee*

DEAR DOCTOR:

No, KaMPAC is *not* dead! With the good possibility of the passage of Medicare, many people believed KaMPAC would fold its tent and silently steal off into the night. This is not the case.

We really are not as bad off in Congress as the newspapers have led us to believe. The important vote in the House was for recommitment to the Ways and Means Committee, which failed 191 to 236. It was lost by only 23 men. In other words, we have 191 friends of medicine in the House and if we can elect 23 more, we shouldn't have too much trouble.

Our work is cut out for us as we have been assured that efforts to broaden Medicare will be made in large numbers.

Each month on this page you can read about KaMPAC, its work, and legislation which has been introduced. If you have any questions, please forward them to me and I will try to answer them.

Very truly yours,

John W. Warren, Jr., M.D.

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PUBLIC POLICY

C. W. Miller, Wichita, Chairman, 132 N. Minnesota; FO 3-5788.

C. M. Barnes, Seneca; C. H. Benage, Pittsburg; W. N. Bernstorff, Winfield; T. P. Butcher, Emporia; W. P. Callahan, Wichita; O. W. Davidson, Kansas City; M. C. Eddy, Hays; N. L. Francis, Wichita; J. L. Lattimore, Topeka; F. L. Loveland, Topeka; N. E. Melencamp, Dodge City; J. C. Mitchell, Salina; L. S. Nelson, Salina; H. St. C. O'Donnell, Ellsworth; J. H. A. Peck, St. Francis; G. R. Peters, Kansas City; L. R. Pyle, Topeka; H. N. Tihen, Wichita.

PUBLIC RELATIONS

L. R. Pyle, Topeka, Chairman, 302 Medical Arts Bldg., East; CE 3-1304.

W. F. Bernstorff, Winfield; L. E. Leigh, Overland Park; F. W. Masters, Kansas City; H. St. C. O'Donnell, Ellsworth; H. P. Palmer, Scott City; L. W. Patzkowsky, Kiowa; J. G. Phipps, Wichita; Alex Scott, Junction City.

RELATIONS WITH THE BAR ASSOCIATION

E. R. Williams, Dodge City, Chairman, 2020 Central; HU 3-3154.

J. O. Baeke, Shawnee Mission; J. J. Basham, Fort Scott; E. S. Brinton, Wichita; D. G. Laury, Ottawa; G. R. Maser, Mission; F. J. Nash, Kansas City; J. A. Segerson, Topeka.

RELATIONS WITH RELIGION

W. P. Williamson, Kansas City, Chairman, K.U. Medical Center; AD 6-5252.

M. D. Athon, Shawnee Mission; R. E. Banks, Paola; R. D. Boles, Dodge City; T. P. Butcher, Emporia; W. M. Cole, Wellington; A. W. Dahl, Colby; L. W. Hatton, Salina; J. E. Hill, Arkansas City; D. S. Lowe, Hiawatha; C. H. Miller, Parsons; H. P. Palmer, Scott City; J. W. Rentfrow, Jr., Hays; A. J. Rettenmaier, Kansas City; H. B. Russell, Great Bend; H. R. Schmidt, Newton; W. C. Schwartz, Manhattan; J. R. Weaver, Wichita; W. H. Zimmerman, Topeka.

RURAL HEALTH

E. F. Steichen, Lenora, Chairman; LO 7-3510.

C. M. Barnes, Seneca; C. E. Brown, Stafford; V. E. Brown, Sabetha; F. G. Freeman, Pratt; P. H. Hostetter, Manhattan; C. M. Nelson, Oberlin; J. H. A. Peck, St. Francis; J. E. Randle, Bucklin; H. O. Williams, Cheney.

SAFETY

G. W. Fields, Scott City, Chairman, 202 College; 87.

P. J. Antrim, Attica; N. C. Bos, Hutchinson; R. E. Bula, Hays; W. W. Burney, Wichita; A. C. Eitzen, Hillsboro; J. A. Grove, Newton; W. A. Nixon, Wichita; G. R. Peters, Kansas City; R. H. Riedel, Topeka; H. E. Snyder, Winfield.

SCHOOL HEALTH

E. S. Gendel, Topeka, Chairman, State Office Building; CE 5-0011, Ext. 729.

C. M. Barnes, Seneca; A. H. Baum, Dodge City; C. W. Bowen, Topeka; M. E. Christmann, Pratt; F. A. Dlabal, Wilson; H. P. Jubelt, Manhattan; J. W. Manley, Kansas City; C. M. White, Wichita.

STATE MEETING FORMAT

J. A. McClure, Topeka, Chairman, 202 Medical Plaza Bldg.; CE 4-5843.

J. N. Blank, Hutchinson; Q. C. Huerter, Bethel; G. W. Nice, Topeka; R. K. Purves, Wichita; E. J. Ryan, Emporia; R. Sohlberg, Jr., McPherson.

STORMONT MEDICAL LIBRARY

R. C. Lawson, Topeka, Chairman, 310 Medical Arts Bldg., West; CE 4-3451.

L. Y. Ch'eng, Topeka; A. C. Cherry, Topeka; R. T. Cotton, Topeka; E. S. Gendel, Topeka; B. H. Hall, Topeka; B. M. Marshall, Topeka; J. M. Mott, Topeka; B. M. Powell, II, Topeka; C. S. Sherwood, Jr., Topeka; J. E. Sweeney, Topeka; W. A. Warren, Wichita; W. H. Zimmerman, Topeka.

STUDY OF HEART DISEASE

M. L. Belot, Lawrence, Chairman, Lawrence Nat'l Bank Bldg.; VI 3-6922.

N. W. Anderson, Topeka; C. C. Conard, Dodge City; D. D. Decker, Halstead; A. M. Diehl, Kansas City; M. I. Dunn, Kansas City; Dwight Lawson, Topeka; R. H. O'Neil, Topeka; Katherine Pennington, Wichita; F. A. Thorpe, Pratt; E. N. Tihen, Wichita.

VENEREAL DISEASE

C. M. Lessenden, Topeka, Chairman, 2101 W. 10th; CE 4-5533.

M. L. Bauman, Wichita; C. C. Brown, Wichita; E. S. Gendel, Topeka; A. B. Harrison, Wichita; C. A. Isaac, Newton; M. D. McComas, Jr., Concordia; C. V. Minnick, Junction City; J. E. Roderick, Salina; N. G. Walker, Kansas City.

WELFARE

J. C. Mitchell, Salina, Chairman, P.O. Box 922; TA 7-3061.

R. G. Ball, Manhattan; D. C. Chaffee, Abilene; M. C. Eddy, Hays; M. R. Knapp, Wichita; D. B. McKee, Pittsburg; L. S. Nelson, Salina; H. St. C. O'Donnell, Ellsworth; L. R. Pyle, Topeka; W. A. Smiley, Jr., Goodland.

Official Proceedings

Report of the 1965 Meeting of the House of Delegates

The transactions of the 106th Annual Session are published in this issue of the JOURNAL.

Resolutions were introduced at the first House of Delegates meeting. All resolutions were referred to the Reference Committees and appear in the minutes of the second House of Delegates as they were adopted. Resolutions failing to pass are retained in the minutes at the Executive office, but are not recorded here.

First Session

The first session of the House of Delegates was held at the Town Club, Hutchinson, Kansas, beginning with a breakfast at 7:30 a.m. on Monday, May 10, 1965. One hundred and thirteen members were present.

John C. Mitchell, M.D., President, called upon the chairman of the Relations With Religion Committee who gave a supplementary report and showed a film entitled "The One Who Heals." William P. Williamson, M.D., spoke of the work of his committee and distributed programs for a symposium on Medicine and Religion to be held at the Medical Center in the fall.

Dr. Mitchell announced that the 1964 House of Delegates adopted a resolution directing the president to appoint a Speaker and Vice Speaker for the 1965 House of Delegates. His appointment of George Burket, Jr., M.D., as Speaker and James A. McClure, M.D., as Vice Speaker was approved.

Dr. Burket then called the meeting of the House of Delegates to order and announced that the appointment of two reference committees was made by Dr. Mitchell. Francis T. Collins, M.D., was appointed to serve as chairman of Reference Committee No. 1, and John L. Morgan, M.D., chairman of Reference Committee No. 2.

The primary election was then held with a vote on all offices with more than two candidates. The election of officers for all positions will be held at the second House of Delegates.

REPORT OF THE CONSTITUTIONAL SECRETARY

Following is a summary of the Membership Report of the Kansas Medical Society for 1965, presented by the Secretary, Leland Speer, M.D.

Dues-Paid Members	1,481
Honorary Members	138

Emeritus Members	16
Leave-of-Absence Members	30
In-Service Members	4
Delinquent Members	214
	<hr/>
	1,883

The membership in 1964 was 1,850. The 1965 membership represents an increase of 33 members. Dr. Speer stated that the Society is now 117 members short of being eligible for a third AMA delegate.

The report of the Treasurer was given by John L. Lattimore, M.D., on the basis of the audit recently completed for the period May 1 through December 31, 1964.

George F. Gsell, M.D., chairman of the Reference Committee on Reports presented resolutions submitted by the Council, Executive Committee, and standing committees of the Society. Resolutions were then introduced by the delegates.

It was announced by the Vice Speaker that five districts would elect councilors and that a caucus of delegates from the component societies would meet to select their councilor. The results of this election were reported at the second House of Delegates meeting.

SPECIAL REPORTS

(Presented at the first House of Delegates Meeting.)

The Editor

It has been customary in years past to devote a fair share of the report of the Editor to an expression of appreciation to all those whose work has made possible the continuing publication of the JOURNAL. I hope that no one will take offense if this portion of my report is condensed on this occasion, but in the interest of discretion, and because there are other essential items to discuss this year, I am taking the liberty of extending a generous but all-inclusive "thank you" to all those who have done so much for us, including staff, Editorial Board, Associate Editors, and the special editors who have helped with the special issues. Each one included knows of his part, and I am going to stop with this much for now.

A year ago the House of Delegates passed a resolution instructing the Editorial Board to review the "purposes, functions, and activities of the JOURNAL," and submit a report to the House of Delegates, al-

though a fair share of this had already been included in the report submitted at the first meeting of the House. However, in compliance with these instructions, a further and expanded report is submitted.

I believe that there is little argument that the JOURNAL exists for the "purpose" of conveying to the members of the Society information of scientific or other nature which will assist them in providing good health care to their patients, and its "functions" are to carry out this "purpose." Any means used to accomplish this obligation, and any problems encountered in carrying out the "function" will be included in "activities" and will constitute the bulk of our report.

A year ago, in considering the future of the JOURNAL, I discussed the problems of obtaining sufficient papers of a satisfactory caliber for a scientific section, and some of the possible means of obtaining more useful papers. At the same time I reported that the financial problems which have plagued so many state journals had not been serious for us at that time. The events of the last year have changed this situation, so that there now *is* a financial problem which needs prompt and careful consideration.

Most of our advertising is handled through the State Medical Journal Advertising Bureau (which I will hereafter call the "Bureau"), which is now doing this for 35 state journals. This is a cooperative venture, and is of great assistance to all of us in maintaining advertising to support the cost of publication of the journals. This is the source of over 75 per cent of our income.

Since the latter part of 1960 the Bureau has reported a decrease, year by year, in the amount of advertising sold, to the point that in 1964 it was only 35 per cent of the amount sold during 1959, the peak year. For some of the state journals there has been a critical situation for several years, but fortunately we were in a better status at the beginning of this decline in revenue, and it has not been too serious a problem until the past year.

Several factors are probably responsible for the reduction of advertising budgets by the pharmaceutical companies, but high on any list must be the influence of the governmental investigations and restrictions which have been imposed on these businesses. The reduction in their advertising budgets is an influence which has been felt in all medical publications and not only the state journals, although this group has been the hardest hit. In our quest for the advertising dollars in the budgets of manufacturers and others, we are competing with the nationally circulated journals, and particularly the so-called "throw-away" journals, which can talk of a circulation of 175,000 or more, which is compared with our 2,500. Of course, not all of the 175,000 read all the ads, but

if even a minor percentage do, you can see that the advertising purchasers feel that they are getting a wider distribution for their information, and at a lower cost-per-reader than in a smaller-circulation journal. Discussions at recent editorial meetings have repeatedly emphasized the difficulty encountered by those selling advertising for our group, when confronted with this competition, and obviously advertising managers are going to spend their money where they think it will do the most good for sales. Why else would they place ads, except as a good-will subsidy?

Our other sources of income have remained relatively level during this same period. This includes local advertising and subscriptions—both of members and others. Thus any decrease in our total income is directly related to the amount of Bureau advertising. Let me add here, parenthetically, that if we did not have the services of the Bureau to provide this type of advertising, we would probably only have a small fraction of the amount we now have. That the Bureau is helpful to us and to the other journals participating, is beyond question.

During the same period of about five years there have been minor fluctuations in production costs, but this has been within a range of about \$2,800, has not shown a continually rising trend, and is certainly not a major factor in a consistently declining balance, which must be attributed to the decrease in advertising income.

The sum total of these changes is a continual decline in our cash balance—between \$2,000 and \$3,000 for two years, but double that the past year.

We do have some reserves on deposit, saved during better years, and with these reserves we can continue for the present, but it must be recognized that this will only be available for a few years if there is to be a continual drain on them. What remedies are there available, then? It involves ways in which income can be increased or expenses can be reduced. It is doubtful that our prosperity could be improved, as promised for our government, by increasing our expenditures while decreasing our income.

Possibilities for increasing income—the selling of additional advertising is of course an obvious solution, and the Bureau is increasing its efforts by any available method. Inducements for increasing sales of advertising might include increasing our circulation, or more significant, our readership, to the point that it would offer better competition with the nationally circulated journals. To do this it is necessary to publish a journal which more people will want to buy, or to have the income to make possible its free distribution on a wide scale. Neither of these seems reasonable in our case for the near future at least. Lowering the advertising rates might attract *some* additional

sales, but if the increase in sales did not compensate for the decrease in rates, there would be worse than no improvement, and the reduction of *our* rates, while the entire industry is increasing rates would also seem a little incongruous.

The preferential placement of ads in the magazine is a form of inducement for sales, and some companies would purchase ads to be in the "center spread," or interspersed with the text material, even at some additional expense, but it has been the feeling of the Board that you did not like it as well when the ads were mixed up with the reading material as you do when they are separated at the front and the back. Having them mixed in with the text material certainly detracts from both the appearance and the readability.

These inducements are concerned with any advertising available, either from the Bureau or otherwise. There is also the possibility that we might be able to increase the amount of local advertising sold, probably through the use of a local agency on a commission basis. This has been given careful consideration, and we plan to try it in the near future. This could include advertisements for air lines, automobile agencies, cameras, collection agencies, investment counsels, and many other things not of a medical nature, but which doctors might buy. It would probably have to be something with some state-wide appeal.

If additional advertising cannot be obtained to make up costs, the next means of increasing income is by increasing the subscription rate, which actually amounts to an increased subsidy by the Society over the present rate of \$2 per member. This currently amounts to about 13 per cent of our JOURNAL income. A possible subsidy from outside sources, such as philanthropic scientific foundations seems unlikely, unless it was on a wide basis for all similar state journals.

The second alternative—that of reducing expenses—might be aided by having fewer pages of the JOURNAL, or printing it on cheaper paper, or even by eliminating the scientific section and making it a bulletin-type publication, by decreasing the number of complimentary copies (which go principally to medical students at KUMC and to libraries), or by stopping publication altogether. Decreasing the size of the magazine, or decreasing the distribution, would effect some decrease in expenses, but at the same time it would eliminate a good portion of the inducement for advertisers to purchase space in the JOURNAL, and so the ultimate effect would probably be exactly the opposite of that intended.

What about the future editorially? I have previously discussed with you the difficulties of obtaining papers of a caliber which you will want to read—a situation made so by the virtual disappearance of papers

from State meetings, by the understandable preference of some authors for nationally circulated or specialty journals, by the lack of time to write papers, and by plain inaction and procrastination. We do feel that we fared better this past year than for some years previous, and that we are in better shape for the current year. This is mainly because of the six "special issues" which we had last year—by the group of psychiatrists in January, by KUMC in March, for the program in April, by the Kansas Chapter of American College of Surgeons in August, by the Emporia group in September, and from the regional meeting of the American College of Physicians in November. During the current year there will be eight such issues, and we feel that this is a boon to a scientific section of the JOURNAL.

Other possibilities for additional papers include the direct solicitation of papers from specific persons on specific subjects, the use of review-type articles (going into a limited subject in some depth, not necessarily presenting anything new, but bringing the reader up to date on the subject as a whole), by the further expansion of the "special issues" (which have provoked our most favorable comment), and by the inclusion of a number of brief case reports. I would like to urge you to submit to us such brief reports of interesting cases—not with a review of the world's literature on the subject, but just simply a case report. These can be interesting and instructive, and they do not involve a long tedious preparation, nor compilation of a bibliography. There are lots of interesting cases treated in the state, and many of them could well be published—if we could get them.

Other possible changes in the editorial aspect of the JOURNAL are periodically discussed, and include the decrease in the size of the magazine (number of pages), or even the elimination of the scientific section. This does not appeal to us as an improvement, but rather an abandonment. It would reduce the JOURNAL to a bulletin, but of course if this is what the Society prefers, it should have it. Mixing advertisements in with the text material has been mentioned before, but would certainly make a less attractive publication, would make reading more of an effort, and would not be liked by any who were having the JOURNAL bound for permanent use, such as libraries commonly do. For these various changes the Editorial Board has no enthusiasm, but prefers to keep the literary content and the style as good as possible, in an attempt to make it desirable.

A year ago I reported that the financial status was not serious. It has become so, and it *is* serious—now, rather than five years from now. It is not a panic situation, for our reserves can carry us over a few lean years, but a continuation of the present trend

would exhaust our reserves in approximately three years, and then it *would* be an emergency.

The readers of the JOURNAL—the members of the Society—are immediately going to become more important in determining the future of the JOURNAL. The Society needs to determine just what sort of a Journal it wants—and is willing to support, and how seriously it wants to support it. It (the type of JOURNAL) should be, and will be, determined by the amount of interest which the *Society* has in the JOURNAL—not what the five members of the Editorial Board want.

Unfortunately two recent events have made us feel that the concern of the Society is not very great. In order to acquire more information about readership of the JOURNAL, as material for helping the sale of advertising, a questionnaire was included in the January issue, with the request that it be returned to the JOURNAL office, whether or not the magazine was read. Only about 200 questionnaires were returned from our entire membership.

A year ago, in making my report to the House of Delegates, I told that the JOURNAL for the first time had an exhibit in the Scientific Exhibit section, and that we were anxious to find out what features of the JOURNAL the members either did or did not like. I requested that the members of the House stop by themselves to supply this information, and ask others to do likewise. During the two days of the meeting how many do you think gave us the information requested? There were 29—such a small number that the answers can mean practically nothing, and obviously would not be a sound basis for making changes in the content or format of the JOURNAL. I hope that these two incidents are not truly representative of the interest (or lack of interest) on the part of the Society as a whole.

In conclusion it is only fair that I should give you the recommendations of the Editorial Board for your consideration. They are: (1) To seek more local advertising, probably through the services of an advertising agency on a commission basis, and so attempt to balance the budget; (2) If this venture is not successful, increase the subscription rates (which means an increase of the subsidy by the Society); and (3) Not to compromise the content or the size or the style of the JOURNAL at present, but only to do so as a last resort, and as a phase of the abandonment of publication if this becomes necessary.

As the House of Delegates requested a report from the Editorial Board, we request that we may be given some direction or expression of opinion from the House of Delegates, and that this report not be merely "received and filed" with no response.

ORVILLE R. CLARK, M.D., *Editor*

Committee on Endowment

In 1964, there were 692 contributions totaling \$15,203.72 to AMA-ERF from the State of Kansas. Forty-one contributions for a total of \$1,354.14 were made by the Woman's Auxiliary.

During the year there were two \$500 contributions; one for \$350; one for \$324; 33 for \$100 each, and 18 for \$40 each.

A check for \$15,721.62 was presented to C. Arden Miller, M.D., Dean of the University of Kansas School of Medicine, at the annual meeting.

I feel that Kansas has amply supported AMA-ERF; the number of memorial gifts has greatly increased and is a big factor in raising the amounts given above.

C. V. BLACK, M.D., *Chairman*

(Presented at the meeting of the second House of Delegates.)

The President

HR-6675, sometimes called "Medicare," passed the House of Representatives and is now in the United States Senate Finance Committee. Senator Frank Carlson of Kansas is the second ranking Republican member of this committee. The AMA plans to testify before the committee with reference to this bill. The Kansas Medical Society sent a delegation to Washington consisting of Drs. M. Robert Knapp, William J. Reals and Charles M. White for an extended visit with Senator Carlson.

The bill provides the following:

1. Hospital benefits under Society Security for persons over age 65.
2. Medical benefits under private voluntary health insurance for persons over age 65 on a federal matching basis out of general treasury funds.
3. Expands federal participation for recipients of welfare of all ages, including MAA.
4. Places physicians under compulsory Social Security participation.

There is much organized medicine that physicians as private citizens could object to in this type of legislation. It vastly expands the Social Security system. Perhaps organized medicine, including the Kansas Medical Society, should exert considerable effort toward defeating this bill.

From a practical point of view it appears such course would result in failure. Therefore, as president, we are recommending to the House of Delegates an alternate procedure. May we make it completely clear, we do not propose capitulation but recommend concentrating the effort of Kansas physicians upon those areas in which it appears reasonable that some possibility of success exists.

There are certain arguments favoring such a stand:

1. Numerical strength of the majority party is such that it appears improbable they will vote to defeat a major platform promise on which they were elected.
2. The area in which socialism occurs under this bill is limited to hospital benefits. It can be argued that this is "a foot in the door," but it can also be argued that this bill establishes a precedent which leaves physicians' services outside the area of socialist advancements.
3. Therefore, we may argue as a society or as individuals that we oppose the advance of socialistic trends but in truth the practice of medicine is not involved.

There are, however, two items relating to HR-6675 which are of exceeding importance to physicians and to the medical profession. It is our opinion that effort to direct the course of this piece of legislation in those respects may be successful. It is for those reasons we recommend the Kansas Medical Society concentrate on the following two points:

1. *Physicians Under Compulsory Social Security Participation.* Because physicians have traditionally protested the Social Security concept and because the program can have little or no benefit to the average practicing physician, at least until he reaches 72 years of age, we are of the opinion the majority of the physicians of this state oppose their personal inclusion under Social Security participation.

Historically, the Kansas Medical Society has always opposed this.

It is our opinion that the physicians of this state, if they spoke in overwhelming numbers against being included on a compulsory basis for Social Security participation and if they made this opinion known to the Kansas members of Congress, and if the physicians of the other states did the same, this section of HR-6675 could be deleted.

2. *Anesthesiology, Pathology, Physiatry and Radiology.* As the bill was originally written, the services of these four specialties in medicine were included as hospital benefits to be paid for from Social Security funds to the hospital.

The Ways and Means Committee in the House deleted this section and it arrived at the Senate without these specialists being taken under the program of socialism.

Some members of the Senate Finance Committee are determined to return their services under Social Security as hospital benefits.

The American Hospital Association in a letter dated March 10, 1965, plans to exert great pressure to accomplish at least 13 specified things. Among them is the following:

"We had felt it to be especially important that the

bill include pathology, radiology, physiatry and anesthesiology services. Recently we called each state with representatives on the Ways and Means Committee and informed them of the likelihood that these services would be deleted from the bill. In spite of all our efforts, it now seems agreed within the Ways and Means Committee to delete the services of such physician specialists. The bill would, thus, divide the costs and services of the hospital department from those of the physician specialists. The result will be that hospitals will have to give assurances that no physician specialist costs will be included in the hospital cost figures to be used as a basis for reimbursement.

"The American Hospital Association plans an extensive effort to correct this language when the bill is considered by the Senate."

The Kansas Hospital Association appears to follow the course outlined by its national body.

The practice of these four specialties is the practice of Medicine. To place these benefits under Social Security is to fragment medicine. To identify their services as hospital benefits is to place them under hospital domination. Because of the above and for many other obvious reasons it is our recommendation that the Kansas Medical Society exert every possible effort to keep the services of these specialists in the area of medical practice. It is our opinion, if we can accomplish this we will at least for the present have preserved free enterprise and voluntary health insurance for the professional services rendered by physicians.

ANALYSIS OF HR-6675

HR-6675, as you know, passed the House of Representatives and is now in the Senate Finance Committee.

The bill contains 296 pages. An analysis prepared by the AMA covers 34 single spaced pages. In this further condensed report we cannot include other than those features we believe most significant to Medicine.

Definitions

Hospital—

1. "is primarily engaged in providing by or under the supervision of physicians, to inpatients, diagnostic services and therapeutic services for medical diagnosis, treatment and care of injured, disabled, or sick persons, or rehabilitation services for the rehabilitation of such persons";

2. maintains clinical records on all patients;

3. has bylaws with respect to physicians;

4. requires every patient to be under the care of a physician;

5. 24-hour nursing service under supervision of a registered nurse;
6. has a "hospital utilization review plan";
7. is licensed by state agency;
8. meets other requirements set by the Secretary of HEW except that an accredited hospital *if it has a review committee* will be deemed to have met all such requirements.

Inpatient Hospital Services—

1. bed and board, nursing care, hospital facilities, drugs, appliances, etc.;
2. *does not include* medical or surgical services provided by a physician or private duty nursing.

Extended Care Facility—

1. skilled nursing services;
2. policies developed and supervised by a physician, a medical staff or a registered professional nurse;
3. licensed by state agency;
4. has a "utilization review plan";
5. has a transfer agreement with an approved hospital.

Utilization Review Plan—

1. reviews (on a sample or other basis) admissions, duration of stay, professional services, etc.;
2. reviews *every* case of extended care as may be required by the Secretary of HEW, but in no case less frequently than each 20 days;
3. has authority to determine, after consultation with the attending physician, that further stay is not medically necessary;
4. this committee shall consist of two or more physicians, with or without other professional personnel and shall be either a staff committee or a similar committee established by the local medical society for hospitals and extended care facilities in the area.

Physicians' Services—

1. professional services performed by physicians, including surgery, consultation, home, office and institution calls;
2. *but not inpatient hospital services*;
3. there is a long list defined as medical and other services such as x-ray, laboratory, etc., etc., but all are excluded from this definition if they constitute in-hospital services, post hospital extended care, home health services or physician's services.

Provider of Services—

1. is a hospital, extended care facility or home health agency.

Services Excluded From Coverage—

1. if not reasonable or necessary;
2. if covered by other government entities such as Workmen's Compensation, etc.
3. if given outside the United States;
4. resulting from acts of war;
5. personal comfort items;
6. routine physical check-ups;
7. eye examinations, eye glasses;
8. ear examinations, hearing aids;
9. immunizations;
10. orthopedic shoes;
11. custodial care;
12. cosmetic surgery except following accident or to improve function.

Social Security Changes

1. Taxes Increase	Employer	Employee	Self-Employed
1966 on \$5,600	\$243.60	\$243.60	\$355.60
1971 on \$6,600	323.40	323.40	468.60
1973 on \$6,600	353.10	353.10	498.30
1987 on \$6,600	369.60	369.60	514.80

—provided no other amendments are made to the Social Security Law.

2. Compulsory coverage on January 1, 1966 for self-employed physicians, interns and residents.
3. Cash benefits increase and retirement test liberalized

	Individual		Family	
	MINI-MUM	MAXI-MUM	MINI-MUM	MAXI-MUM
Jan. 1, 1965	\$44.00	\$135.90	\$66.00	\$286.80
on \$5,600 base		149.90		312.00
on \$6,600 base		167.90		368.00

4. *Hospital care* for those over 65 in semi-private accommodations up to 60 days for each spell of illness and imposes a \$40 deductible.

5. *Post hospital extended care* in a facility which has a transfer agreement with one or more hospitals. Eighty additional days could be covered on a formula related to unused hospital days.

6. *Post hospital home health services* up to 100 visits in one year.

7. *Out-patient hospital diagnostic services* during a 20-day period with a \$20 deductible.

8. Payments to the above would be made at least monthly based on "reasonable cost" and only if certified by a physician that the care is medically necessary. Recertification required of the medical review committee by regulation but not later than the 20th day of continuous services.

9. The above providers could ask payments to be

made through a national, state or other public or *private* agency on contract with HEW. Such agency (Blue Cross) could also provide other services such as audits, communications, etc., etc.

Health Insurance Benefits for the Aged

1. Establishes a voluntary program to provide health insurance benefits for anyone over 65 who elects to enroll.

2. Premium is \$3 a month paid by the individual and an equal amount from funds appropriated by the Federal Government.

3. Benefits are:

a. medical and other health services, except where payment may be made under the Social Security section.

b. inpatient psychiatric care up to 60 days during a spell of illness. Lifetime maximum 180 days.

c. home health services up to 100 visits a calendar year.

4. Payment of benefits. After a \$50 deductible payment would be 80 per cent of reasonable charges, i.e. ". . . not higher than the charge applicable for comparable services under comparable circumstances to policy holders and subscribers of the carrier." The physician would be authorized to collect from his patient the deductible and the 20 per cent not covered in the payment.

5. Enrollment is voluntary but available to every resident of the United States who is over 65 years of age. He cannot enroll more than three years after his first opportunity to enroll. Premium rates are to be raised 10 per cent a year for each year the person was eligible but did not enroll. Some could be required to pay 30 per cent more because of this. General enrollment will begin in 1967 and be open from October 1 to December 31 of each odd numbered year.

6. Coverage begins on the first day of the sixth month after the month in which he enrolls.

7. Insurance carriers may contract with the Secretary of HEW without the necessity for competitive bidding. Such carriers shall assure HEW that—

a. they are a voluntary association lawfully engaged in group health benefit plans or the health benefit plan underwritten by an employee organization or a state agency;

b. payments will reflect reasonable charges and not higher than the charge made to other policy holders and subscribers of the carrier for comparable services under comparable circumstances;

c. upon the request of a state, if made before July 1, 1967, included at the same premium would be recipients of OAA, Blind, Disabled and any persons receiving money payments under all public assistance programs.

8. Appropriations equal to the subscribers' premiums would all be placed under a Federal Supplementary Health Insurance Benefits Trust Fund.

Grants to States for Medical Assistance Programs

1. Requires the state to pay for at least 40 per cent of all non-federal expenditures under these programs and after July 1, 1970, to pay *all* other than federal appropriations within the state.

2. Requires the state agency that administers OAA, Aid to the Blind, Aid to the Disabled and MAA shall also administer or supervise the administration of the plan for medical assistance. However, each program would be regarded as a separate plan.

3. Requires that the amount, duration and scope of medical assistance in all programs including MAA be equal.

4. Provides that *no* deduction, cost sharing, or similar charge will be imposed with respect to inpatient hospital services.

5. Any enrollment fee, premium or similar charge with respect to other medical assistance will be reasonably related to the recipient's income and resources.

6. The state may provide the payment of deductibles and coinsurance if this is determined on a basis of the recipient's income and resources.

7. There may be no lien placed on property prior to the recipient's death—and while the spouse lives or there are children under 21 years of age.

8. On January 1, 1966, the federal government would pay a state, if the plan is approved,

—55 to 83 per cent of the cost depending upon the state's per capita income, and

—75 per cent of salaries for skilled medical professional staff and other supporting staff members, and

—one half of all other administrative costs.

9. Medical assistance lists 14 different types of services of which the last says "any other medical or remedial care recognized under state law specified by the Secretary."

10. This formula would replace all existing medical care under public assistance programs.

Other Health Care

1. Maternal and Child Health and Crippled Children's programs to be expanded by federal grants, \$45 million in 1966 to \$60 million in 1970 and every year thereafter.

2. Training professional persons for care of crippled and mentally retarded children, \$17.5 million in 1969 and thereafter.

3. Special projects for school and pre-school chil-

dren in the area of health, especially in low-income families, \$50 million by 1970 and thereafter.

4. Mental retardation planning and control programs would receive \$2,750,000 a year to pay for 75 per cent of the total cost for state programs for prevention, treatment, etc.

5. Mentally ill and tuberculosis patients may now receive federal aid for care in state institutions or in private hospitals.

6. Allows a recipient to get OAA and MAA during the same month.

7. Increases federal participation in state public assistance programs as of July 1, 1967.

Advisory Committees

1. A 16-member Health Insurance Benefits Advisory Council appointed by the Secretary of HEW to advise him on policy, administration and regulations. This would include outstanding representatives in the fields of hospitals, medical and other health activities.

2. A 9-member National Medical Review Committee of which the majority shall be physicians and at least one shall represent the general public will be appointed by the Secretary to study utilization.

3. Studies would be carried on continuously by the Secretary of HEW with any assistance he may require on efficiency, financing, and such things as deductibles and coinsurance provisions in health insurance.

4. The Commissioner of Social Security and 12 others to be appointed would represent an Advisory Council on Social Security.

PHYSICIANS' SERVICES AND HR-6675

On May 4, 1965, F. J. L. Blasingame, M.D., executive vice president of the AMA sent the following teletype message to each state society.

The following is being sent today by the College of American Pathologists to its members.

I strongly recommend that you use this information in your contacts with senators.

In addition to the information contained in the College statement you will be interested in the following excerpts from the American Hospital Association testimony given today.

"We strongly believe that if the deletion of specialists' services for aged beneficiaries remains in this legislation, it will certainly lead to the extension of the practice to all other patients. In various ways the needs of the public and the efforts to provide the best possible patient care at the lowest possible cost is tending toward the increased concentration of a wide variety of highly skilled and trained specialists working full time in hospital centers. The separation of

physician specialists as proposed in this legislation is totally contrary to the whole direction of health care practice in our nation."

COLLEGE OF AMERICAN PATHOLOGISTS FACT SHEET; PHYSICIANS' SERVICES AND HR-6675

Points to be emphasized in discussing issue with your senator:

1. The practice of pathology, radiology, anesthesiology and physical medicine are branches of the practice of medicine just as are surgery, general practice and internal medicine. This is recognized by all medical associations, within government medical services, and by the courts and other agencies of government. The services of these physicians are not hospital services and do not belong in that portion of the bill solely designed to offer hospital benefits.

2. Lavish campaign by American Hospital Association and most state hospital associations is economically motivated. Reimbursement to hospitals under HR-6675 will be on the basis of "reasonable cost" not on the basis of "customary charges." Thus for the first time hospitals will be forced to reveal the hidden profits in the operation of laboratory and x-ray departments of practically all hospitals.

3. Approval of HR-6675 as now written would tend to lower the costs of medical care. Over the past twenty-five years hospital costs have increased 405 per cent, while physicians' fees have only gone up 100 per cent, as compared to an overall increase in the cost of living of 115 per cent. If physicians' fees in the four specialties are stated separately from hospital charges, the cost of these services to patients will be reduced. Reason—hospitals will not be able to justify profits they are now realizing, particularly in pathology and radiology, if their charges are stated separately from the physician's fee. Combining the fee with the hospital charge as would be required if the Douglas Amendment was approved would obscure and hide the hospital profit in these departments.

4. Adoption of HR-6675 would be minimally disruptive to existing patterns of medical practice. The exclusion of the medical services of these four specialties from the hospital segment of HR-6675 will result in changes in the procedure followed by some hospitals and some insurance and prepayment carriers. However, the enactment of this bill will result in many such changes. The exclusion of physician's service will in no way result in fewer benefits for the beneficiaries eligible for hospital services. The position of the hospital in the community certainly will not be retarded if the role of the physician is unimpaired by nonprofessional administrators, hospital governing boards and government agencies. In effect, the adoption of the Douglas Amendment would force all doctors practicing these four specialties to be classified as hospital services, regardless of existing patterns of practice. The approval of this amendment would force 15 per cent of this country's physicians to become salaried employees of hospitals rather than independent practitioners along with the rest of medicine.

5. In 1965, medical practice is interdependent, and high level care is based upon a balanced health team. There are current shortages of practitioners in the medical specialties of pathology, radiology, anesthesiology and psychiatry. All of these specialties are in the lower 50 per cent of number of available residencies which are currently filled. The American Board of Pathology recommends one pathologist for every 5,000 hospital admissions. In 1963 there were 26,000,000 admissions to acute hospitals. There were only slightly over 3,000 practicing pathologists in the service practice of pathology. If any medical specialty or group of medical specialties, is dealt with prejudicially in a federal law, physicians will not enter these specialties. Doctors are unwilling to undergo years of extra training only to be designated as "hospital services" at the end of this training. They have options to enter other branches of medicine and will exercise these options.

6. If the services of physicians practicing in four branches of medicine are designated as "hospital service" in a federal Social Security financed law, there will then exist precedent for including the professional services of other physicians in this law. The fact is that the specialties named in the Douglas Amendment are a minority of those now employed by hospitals. Undoubtedly, in the future, pressure will mount to include these other employed physicians practicing in all branches of medicine as parts of "hospital services" by additional amendments to HR-6675. Result would be a complete takeover of medical practice as it now exists by AHA and the federal government.

JOHN C. MITCHELL, M.D., *President*

The President-elect

It is not my intention to speak at great length concerning programs for the coming year. There are many things which your executive committee has in mind but these will unfold rapidly in the next few weeks.

However, there is one urgent and most important matter about which I must speak at the onset of this session. The drums are rolling again and those who would place health care of the citizens of Kansas under government control are planting the seeds of suspicion and doubt in the minds of the governor and the legislature to better gain their ends. For some time now bits of information, gathered here and there, have made many of us suspicious that certain individuals in our state government would like to have created a Department of Health, Education and Welfare in Kansas. One needs to consider this only briefly to realize the amount of power such a department would have, measured in influence and appropriations. By what mechanism this would be attempted was not plain until the smoke had cleared from the recent legislative session and events had been analyzed. It is now quite evident that the intent is to smear, malign, and misrepresent the State

Department of Health and thus create confusion and distrust in the minds of the legislators. With confusion and distrust well implanted, the legislature would then be ripe for ulterior suggestion.

During this last session of the legislature a bill was proposed, in committee, to eliminate the present Board of Health, consisting of five physicians, one hospital administrator, one pharmacist, one dentist, one veterinarian, and one sanitary engineer; and replace it with either an entirely lay Board or a Board consisting of one member licensed by the Board of Healing Arts, one pharmacist, one veterinarian and two lay individuals. This was defeated in committee, but after much confusion the Committee on Public Health of the House did come out with a resolution, passed by the legislature, recommending a study of the Department of Health under the guidance of the Legislative Council. This would seem rather benign until one procures and reads a subcommittee report given to the Legislative Council this past year. This report was undoubtedly a factor in the original bill. I shall not go into this report in detail at this time, but shall merely state that it is filled with prevarications, half truths, and statements bordering on slander concerning the Department of Health. It is clearly that type of document with which certain ones of the inner circle of the national Department of Health, Education and Welfare would be quite proud were they attempting to eradicate a department with which they did not agree. Furthermore, one of the most influential members of this subcommittee, speaking to the Kansas Public Health Association had this to say, "While we are studying the organization of public health, I would point out that in this day and age, the function of public health and the function of public welfare are growing closer and closer together. Much of our public welfare costs are involved in medical assistance programs of various types and many of the public welfare programs and the public health programs are dealing with the same subject matter and the same individuals. While we are looking into the organization of public health, we should perhaps consider how these two programs are inter-related and see if the state would benefit from consolidation of the two programs into one comprehensive health and welfare program. . . ."

Here, then, lies the true reason for the rolling drums and the fire that will create the smoke—a Department of Health and Welfare in Kansas. I need only to remind you of our continuing difficulties with the Department of Welfare regarding Kerr-Mills for you to visualize our position if this should occur.

Frankly, it is disturbing to me that this should occur in Kansas at a time when there is doubt spreading through our national congress concerning the advisability of having our Public Health Service com-

bined with the Department of Welfare. In fact, Representative Fogarty, chairman of the subcommittee on HEW, has at this time entered a bill in his committee *separating* the Public Health Service from Welfare.

The question now must be to the physicians of Kansas: Is a Department of Health and Welfare acceptable, and are they ready to accept this increased state government control? We have two years to prepare our answer and although these years will move swiftly we still have enough warning that the decision of the 1967 legislature *will be of our own doing*. All of the responsibility for direction in this matter rests with this House of Delegates. This is a grave responsibility and I know you will view it as such.

It is my personal feeling that the Kansas Medical Society should give its wholehearted support to the Board of Health. The Board of Health has always felt a deep responsibility for the health of the people of Kansas in areas assigned to it. There is no doubt that a survey of public health objectives and programs will serve a useful purpose in producing modern programs and eliminating outdated ones; however, we must not allow such a survey to be turned against us. I would propose that we, as physicians, forget small differences we have had in the past concerning programs, regulations, enforcement, and so forth, and give our full cooperation and support to the Board of Health these next two years, in this endeavor. The personnel in the Department of Health are dedicated, professional people who feel a strong loyalty to medicine in the performance of their duties and prefer to remain under the direct influence of the medically educated.

It is my intention as your incoming president to appoint a Public Health Committee, knowledgeable in public health and willing to put forth maximum effort in this area on behalf of our Society. They shall abide by the direction of this House of Delegates. Resolutions pertaining to this matter have been presented to you. Consider them thoroughly and voice your opinion today.

There are many other matters that I should like to discuss with you at this time, but time does not allow. I feel it is a great honor and privilege to serve as president of this Society next year and follow a long line of distinguished physicians who have served so well in the past.

GEORGE BURKET, JR., *President-elect*

Kansas Blue Shield

Over the past 20 years many changes have occurred in our economy. Increased federal spending has brought on increases in supportive taxes and has ushered in the withholding principle of income and security taxation. By this rather suspect manner of

collection, few individuals today realize the extent or degree of taxation. They have come to look at the *leftovers* of their income after tax deductions as being the *actual* worth of their labors, and hence increasing tax rates have become easily camouflaged. This social calamity has left fewer dollars available for out-of-pocket spending in the market place. Necessities and luxuries are competing on *equal* ground for the remainder of the wage earner's purse. He is hardly able to distinguish what he *needs* from what he *wants*. Less monies are put into savings, and the individual is actually borrowing from himself. He is faced with too much of the "Fly Now—Pay Later" philosophy.

And into this muddle of deficit spending the whole area of medical care must look for its economic survival. It is no wonder, then, that prepayment and systematic budgeting for medical care has become a part of daily life. Certainly, prepay insurance has allowed a larger segment of our population to pay for medical care than ever before. These people are now looking for greater predictability of coverage . . . and it is to Blue Shield that over 60 million people in this country expect a mechanism whereby they can prepay not only part of the doctor bill—but all of it.

Already this is happening in Kansas.

The past year has seen the development of a new plan which has taken the heretofore unprecedented step in offering to pay the physician his usual charges—rather than a fixed schedule of fees. This approach, of course, guarantees the subscriber the predictability of coverage which he has sought the past many years. At the same time it protects the physician against the time honored battle cry of "fee setting" by indemnity contracts of Blue Shield or private insurers. This program is now being accepted by a surprisingly large percentage of subscribers in Riley and Geary Counties.

Simultaneously, on a national scale, a similar but not identical type program of "Prevailing Fees" is being fostered by National Blue Shield for the Federal Employee Program. The idea perhaps will soon engulf the entire thinking about prepayment—except that perhaps a low cost contract will always be kept alive to meet the needs of those with limited incomes.

It is my considered opinion that increasing inroads of the government into medical care paid through social security taxes will be best restrained by our attempts to bring to the greatest number of people the opportunity to prepay an ever increasing part of their sick care dollar.

Our responsibility is to adjust and improve prepayment so that the public will not sacrifice it for a politically controlled and administered substitute. The independence of the individual physician in fee set-

ting has given way to the concerted activities of medical societies acting in his behalf. Out of necessity he has delegated his authority to the organized profession in this and many other matters. By his willing and active participation in such prepayment programs he is doing more to preserve the private practice of medicine than by any other single effort.

This past year has seen the filing of Dental Riders after many years of study by Blue Shield and the Dental Association. The inclusion of this coverage as proposed by this House of Delegates should invigorate Blue Shield's competitive strength in a highly saturated market.

Last year saw the proposed Deferred Compensation Plan taken to the Internal Revenue Service for opinion. At this time we are still waiting. It is likely that the income from the proposed Trust of this plan will be taxed in the year earned, but that the principal income will be considered deferred and not taxed until removed from the Trust at retirement. At any rate . . . we shall come to you as individuals and give you the opportunity to review the finished product, then either accept or reject it.

Truly, nowadays a prepayment mechanism needs a cafeteria of ideas and programs in order to survive and flourish. Those of us on the Blue Shield Board shall continue our efforts in helping you bring to our fellow Kansans an ever-improving method of coverage. Yes, broad coverage, laced with the inclusion of poor risks in our programs, have in the past, and will continue in the future, to be our Gibraltar against the discontent of the public . . . so that the public will not want to look to government to furnish a service they can better obtain in the free market.

E. BURKE SCAGNELLI, M.D., *President*

Second Session

The second session of the House of Delegates convened at the Baker Hotel, Hutchinson, on Thursday, May 13, 1965, at 9:00 a.m. The meeting was called to order by the Speaker, George Burket, Jr., M.D.

The tellers reported the results of the election as follows:

PRESIDENT-ELECT: James A. McClure, M.D., Topeka

FIRST VICE PRESIDENT: George F. Gsell, M.D., Wichita

SECOND VICE PRESIDENT: John L. Morgan, M.D., Emporia

SECRETARY: Leland Speer, M.D., Kansas City

TREASURER: John L. Lattimore, M.D., Topeka

AMA DELEGATE: John C. Mitchell, M.D., Salina

AMA ALTERNATE DELEGATE: William J. Reals, M.D., Wichita

The caucus of the Council districts announced the selection of the following to serve as councilors from their respective districts:

District No. 6: Francis T. Collins, M.D., Topeka

District No. 7: Richard F. Conard, M.D., Emporia

District No. 10: Ralph R. Melton, M.D., Marion

District No. 12: Frederick P. Wolff, M.D., Pratt

District No. 16: James J. Marchbanks, M.D., Oakley.

RESOLUTION NO. 1

Expression of Gratitude

WHEREAS, the reports of officers, councilors and committees show evidence of much effort in behalf of the Kansas Medical Society, therefore

Be It Resolved, That the House of Delegates express its gratitude to John C. Mitchell, M.D., the President, for his exceptional leadership, to the Executive Committee, the Council, the Committee Chairmen and all members who contributed toward the work of this Society in the past year, and

Be It Further Resolved, That the reports be approved and adopted.

RESOLUTION NO. 2

Disaster Planning

WHEREAS, coordinated planning to provide health services in case of a major disaster must be accomplished prior to its occurrence, and

WHEREAS, the medical profession should accept its responsibility for leadership in such planning, therefore

Be It Resolved, That the House of Delegates direct the Committee on Emergency Medical Care to organize, at the earliest possible time, a statewide program which can be instantly placed into operation at such time and place as needed, and

Be It Further Resolved, That the Committee on Emergency Medical Care coordinate this planning with such allied professions as may be needed to complete a disaster health service, and

Be It Further Resolved, That the president of the Kansas Medical Society be directed to announce this project to, and to ask the assistance of, all component medical societies in this state, each hospital professional staff in Kansas and such other persons or organizations as may be needed in this effort.

RESOLUTION NO. 3

Similar in content to Resolution No. 24; therefore Resolution No. 3 was not adopted.

RESOLUTION NO. 4**Committee on Aging**

WHEREAS, gerontology as a medical specialty has not found wide acceptance; and

WHEREAS, the health problems and illnesses of older people do not materially differ from those of other age groups; and

WHEREAS, the Commission on Aging of the American Medical Association has recognized these truths and has abandoned the use of the term gerontology in its own name; therefore

Be It Resolved, That the name of the Kansas Medical Society Committee on Gerontology be changed to the KANSAS MEDICAL SOCIETY COMMITTEE ON AGING.

RESOLUTION NO. 5**Adult Care Homes**

WHEREAS, one and two bed adult care homes, and certain church and charitable adult care home facilities are exempt from licensure under present Kansas adult care home licensure laws; and

WHEREAS, under present welfare laws, welfare client nursing home patients may be placed in accommodations which operate under these exempt categories; and

WHEREAS, construction and operation costs of licensed adult care homes substantially exceed construction and operation costs of unlicensed adult care homes, with said differential causing unfair discrimination against licensed adult care homes; therefore

Be It Resolved, That the Kansas Medical Society recommends legislation which would provide that no welfare patients shall be placed in an unlicensed adult care home of whatever category, if a bed in a suitable licensed adult care home is locally available; and

Be It Further Resolved, That the Kansas Medical Society recommends legislation which would provide that all adult care homes in the State of Kansas, except one and two bed units, shall be under state licensure.

RESOLUTION NO. 6**Johnson County Medical Society**

WHEREAS, the Johnson County Medical Society now has a membership of 106 and is continuing to grow, and

WHEREAS, the Sedgwick, Shawnee and Wyandotte county medical societies are separate council districts, and

WHEREAS, there is no other component medical society of this size, therefore

Be It Resolved, That Johnson County Medical Society be designated as a separate council district, and

Be It Further Resolved, That Anderson, Douglas, Franklin, Linn and Miami counties be designated as a council district, and

Be It Further Resolved, that the districts be appropriately numbered, and

Be It Further Resolved, That the Bylaws be amended in Chapter VIII, Section 14, to read:

"District 3—Johnson County

"District 18—Anderson, Douglas, Franklin, Linn and Miami."

RESOLUTION NO. 7**District Societies**

WHEREAS, some district societies lie within more than one council district, and

WHEREAS, this represents a problem for communication between the councilor and his medical societies, therefore

Be It Resolved, That the House of Delegates direct the Council to once again recommend that the physicians in certain less populated counties reorganize into district societies and apply for charters, and

Be It Further Resolved, That when this is accomplished, the Council reorganize council districts whereby a district medical society will lie within a single council district.

RESOLUTION NO. 8**Revision of Bylaws**

WHEREAS, it has been many years since a thorough study of the Bylaws has been conducted, and

WHEREAS, the Committee on Constitution and Rules is recommending certain specific changes, therefore

Be It Resolved, That the House of Delegates direct the Committee on Constitution and Rules to prepare in close cooperation with the Committee on Plans and Scope a complete revision of the Bylaws to be submitted to the House of Delegates in 1966, and

Be It Further Resolved, That the above revision give special emphasis to committee structure of the Society.

RESOLUTION NO. 9**Speaker of the House of Delegates**

WHEREAS, the 1964 House of Delegates authorized the president to appoint an interim speaker of the House of Delegates on a demonstration basis for the 1965 Annual Session, and

WHEREAS, the Committee on Constitution and Rules recommends the reorganization of the operation of the House of Delegates whereby a speaker and a vice speaker be elected by the House of Delegates whose duties shall be to preside over all sessions of that body and who shall appoint and direct the activities of reference committees, and

WHEREAS, such procedure is in effect in not less than 21 state medical societies and is currently being considered by others, and

WHEREAS, this would relieve the president of the details involved in conducting the business sessions of this Society and permit him to more adequately exercise the executive responsibilities of his office, therefore

Be It Resolved, That the House of Delegates through the Committee on Constitution and Rules present amendments in 1966 which would create a Speaker and a Vice Speaker for the House of Delegates and define their duties, qualifications and terms of office, and

Be It Further Resolved, That the incoming president for the year 1965-66 appoint a Speaker and a Vice Speaker to preside over the House of Delegates sessions during his term.

RESOLUTION NO. 10

Continuation of the Committee on Plans and Scope

WHEREAS, this committee has submitted not less than 16 resolutions to the House of Delegates, many of which have been adopted, and

WHEREAS, there are a number of additional items which need further study, therefore

Be It Resolved, That the Committee on Plans and Scope be directed to continue its efforts for one more year.

RESOLUTION NO. 11

Blue Shield Programs of the Future

WHEREAS, Blue Shield was developed as an instrument through which the profession might best preserve voluntary medical care within free enterprise as the economic system under which it could most effectively serve the public need; and

WHEREAS, it is increasingly important that Blue Shield continue to progress in the attainment of this purpose; and

WHEREAS, in fulfilling this purpose a basic Blue Shield objective should be to enroll more persons and retain them as satisfied subscribers; and

WHEREAS, securing this objective requires the production of Blue Shield programs which deliver better predictability of performance and broader

scopes of covered services—the two factors constituting the basis of public demand for more adequate medical care benefits; and

WHEREAS, it is believed that the majority of the public market desires, and is willing to purchase, complete predictability in the form of paid-in-full benefits; and

WHEREAS, the medical profession and Blue Shield recognize the need to maintain a posture of concern for people of low income and to demonstrate this concern through the provision of programs which provide full service benefits at low rates; therefore

Be It Resolved, That Blue Shield be encouraged to make every effort to develop and implement service benefit programs which include:

1. A plan which pays Participating Physicians' professional charges in full, for those services covered by the contract,

2. An alternative plan which pays a high and predictable percentage of Participating Physicians' professional charges, and

3. A low option program which continues to guarantee service benefits to persons of genuinely low income; and

Be It Further Resolved, That component societies be encouraged to work with Blue Shield in the exploration of benefit combinations which might provide the broadest scope of coverage that can be economically prepaid; and

Be It Further Resolved, That physicians be urged to participate in such programs as may be developed.

RESOLUTION NO. 12

Tuberculosis

WHEREAS, the prevalence of tuberculosis is such that it remains a disease of significant concern, therefore

Be It Resolved, That the Committee on the Control of Tuberculosis be directed to—

1. Provide physicians of this state information regarding the recommendations of the Task Force on Tuberculosis.

2. Make available to private physicians and local health officers information relating to follow-up methods and procedures on suspected tuberculosis cases.

3. Inform physicians about tuberculosis services and facilities, and

Be It Further Resolved, That the House of Delegates express its opinion that the photofluorographic mobile x-ray unit continues to be a useful tool as part of a major program of tuberculosis control and that its operation should be continued in Kansas.

An emergency was declared, the rules suspended, and the following resolution was unanimously

adopted with a standing ovation at the Monday session.

RESOLUTION NO. 13

Gratitude to Dr. John L. Lattimore

WHEREAS, the executive staff of the central office was depleted during the first four and one half months of 1965 because of the legislature which occupied the full time of the Executive Director and because of the resignation of the Assistant Director, and

WHEREAS, John L. Lattimore, M.D., volunteered his services to the Kansas Medical Society without cost, and

WHEREAS, Dr. Lattimore came to the office daily during this period, answered correspondence, attended committee meetings and cared for numerous other executive details, therefore

Be It Resolved, That the House of Delegates express its gratitude to Dr. Lattimore for this most valuable contribution which, after a long and varied series of services rendered in the past, places the Kansas Medical Society more deeply in his debt.

RESOLUTION NO. 14

Thanks to the Shawnee County Medical Society

WHEREAS, this year as during previous sessions of the Kansas Legislature the physicians of Topeka offered to care for the health needs of legislative members and their families without delay, and

WHEREAS, many members of the Shawnee County Medical Society gave professional care as requested of them, often without charge to the legislator, frequently at serious disruption to their schedule, and always without complaint, and

WHEREAS, this contribution was a much appreciated service to the members of the legislature and of material aid to the Kansas Medical Society, therefore

Be It Resolved, That the House of Delegates express its sincerest gratitude to the Shawnee County Medical Society and to each individual physician for their most important contribution toward the effort of the Kansas Medical Society in obtaining sound health legislation for all people.

RESOLUTION NO. 15

HR-6675—Anesthesiologists, Pathologists, Physiatrists and Radiologists

Similar in content to Resolution No. 31; therefore, Resolution No. 15 was not adopted.

RESOLUTION NO. 16

HR-6675—Anesthesiologists, Pathologists, Physiatrists and Radiologists

WHEREAS, the practice of anesthesiology, pathology, physiatry and radiology is the practice of medicine, and

WHEREAS, the services of physicians in those specialties cannot be considered hospital services, and

WHEREAS, the modern hospital is not "the central institution in our health service system," but a place where medical care is provided by physicians, and

WHEREAS, Medicine will oppose the inclusion of certain medical services as hospital care with equal vigor as it would oppose the inclusion under hospital domination of all physician services, therefore

Be It Resolved, That the House of Delegates express the absolute opposition of this Society to including the services of anesthesiologists, pathologists, physiatrists and radiologists as benefits under hospital care, and

Be It Further Resolved, That the delegates from Kansas be instructed to present this resolution before the House of Delegates of the AMA.

RESOLUTION NO. 17

Professional Services under HR-6675

WHEREAS, the American Hospital Association and the National Blue Cross Association advocate including the professional services of anesthesiologists, pathologists, physiatrists and radiologists as hospital benefits, and

WHEREAS, the American Hospital Association issued a directive to each state Hospital Association requesting active support of each member hospital in this stand, and

WHEREAS, this was transmitted by the Kansas Hospital Association to its members, and

WHEREAS, this position of hospitals would in effect establish the hospital as "the center of health care" in this nation and place four specialties in the practice of medicine in the employment and under the supervision of hospitals, and

WHEREAS, such action will result in the deterioration of the quality of health care, and is not in the best interest of the patient, therefore

Be It Resolved, That the Kansas Medical Society condemn the position of the American Hospital Association and the National Blue Cross Association on this subject, and

Be It Further Resolved, That the Kansas Hospital Association and the Kansas Blue Cross Board be urged to disapprove of this position taken by their National Associations, and

Be It Further Resolved, That physicians request the administrators and the Board of Trustees of hospitals

in which they practice medicine to advise Senator Frank Carlson and Senator James Pearson of Kansas that the services of the above-named specialists in medicine be NOT included as hospital services in HR-6675.

RESOLUTION NO. 18

Compulsory Physician Participation Under Social Security

WHEREAS, HR-6675 places practicing physicians under compulsory participation in Social Security, and

WHEREAS, few physicians retire at age 65 and would receive no benefits under this program until they had passed their 72nd birthday, thereby imposing an unreasonable taxation to physicians for benefits they would in most cases never receive, and

WHEREAS, the members of the Kansas Medical Society have over the past several years consistently voted to reject the compulsory inclusion of physicians under Social Security participation, therefore,

Be It Resolved, That the Kansas Medical Society express, through Senator Frank Carlson, to the Senate Finance Committee its opinion that the compulsory inclusion of physicians under Social Security participation is unnecessary and an unreasonable taxation toward benefits the majority would never receive and that it is the hope of the Kansas Medical Society that the Senate will delete this section from HR-6675, and

Be It Further Resolved, That the president of the Kansas Medical Society send similar or identical statements to each Kansas member in the Congress of the United States.

RESOLUTION NO. 19

Compulsory Physician Participation Under Social Security

WHEREAS, HR-6675 places practicing physicians under compulsory participation in Social Security, and

WHEREAS, few physicians retire at age 65 and would receive no benefits under this program until they had passed their 72nd birthday, thereby imposing an unreasonable taxation to physicians for benefits they would in most cases never receive, and

WHEREAS, the members of the Kansas Medical Society have over the past several years consistently voted to reject the compulsory inclusion of physicians under Social Security participation, therefore,

Be It Resolved, That the Kansas Medical Society express its opinion that the compulsory inclusion of physicians under Social Security participation is unnecessary and an unreasonable taxation toward benefits the majority would never receive and that it is the hope of the Kansas Medical Society that the Senate will delete this section from HR-6675, and

Be It Further Resolved, That the delegates of the Kansas Medical Society be instructed to present this

resolution before the House of Delegates of the AMA.

RESOLUTION NO. 20

Support of the AMA

WHEREAS, (1) The AMA has conducted a continuing campaign to promote public and congressional support for wise legislative action to help finance the health care of the aged, and

WHEREAS, (2) this campaign has stressed three principal features which are sound:

(a) help directed toward those over 65 who need help

(b) state rather than federal administration, and

(c) the maximum use of private carriers and the voluntary health insurance and prepayment principle, and

WHEREAS, (3) The Board of Trustees, the Task Force and the Staff, under the over-all direction of the Executive Vice-President, have conducted a high-level, persuasive and positive campaign designed to tell our story. Therefore,

Be It Resolved, That the KMS House of Delegates commends the Board of Trustees of the American Medical Association, its Task Force and the Staff for their efficient and energetic conduct of a difficult campaign under highly unfavorable political circumstances;

Be It Further Resolved, That a copy of this Resolution be sent to the AMA.

RESOLUTION NO. 21

The President's Commission to Conquer Cancer—Heart Disease—Stroke

WHEREAS, every physician desires that heart disease, cancer and stroke shall be conquered, and

WHEREAS, among the sound recommendations made by the President's Commission are found many, which if enacted, would dangerously reduce the quantity and the quality of care available to those suffering from other conditions, and

WHEREAS, it appears the Commission, in its concern over specific diseases, overlooked the total picture of health care, and

WHEREAS, the Kansas Medical Society expresses its belief that certain fundamental principles should not be neglected, therefore

Be It Resolved, That the House of Delegates respectfully submits to the AMA for its consideration on this subject, that:

(1) The hospital is not the center of health care.

(2) The great majority of the sick are cared for by physicians outside of hospitals.

(3) The time lag between most medical discoveries and their use by physicians have not been shown to be unduly prolonged.

(4) The establishment of centers is not in the

best interest of many patients—nor will the population obtain better health care in this manner.

(5) The medical universities through orderly research, through the education of physicians and through their continuing educational programs at the post-graduate level already perform the functions suggested by the President's Commission, and thereby strengthen the quality of health care at the area where the patient resides, and

Be It Further Resolved, That the delegates from Kansas present this resolution before the House of Delegates of the AMA, and

Be It Further Resolved, That each member of the Kansas Medical Society make strong protest to the President's Commission, to proper departments of the federal government and to the senators and congressional representatives from the State of Kansas.

RESOLUTION NO. 22

Kansas State Board of Health

WHEREAS, The Kansas State Board of Health was created by action of the Kansas Legislature following a strong and continuing recommendation by the Kansas Medical Society, and

WHEREAS, the dramatic improvement in mortality and morbidity statistics since that time are due in considerable part to public health efforts in obtaining understanding and acceptance of high standards of sanitation, nutrition and immunization, and

WHEREAS, further improvement in public health is needed and appears to be desired by the Kansas Legislature, and

WHEREAS, The Kansas Society has a principal obligation to the people of this state in this field of service, therefore

Be It Resolved, That the Kansas Medical Society Committee on Public Health is directed to prepare in cooperation with such other persons or organizations as may be desired, an outline of a complete public health program for Kansas listing, without regard for cost, areas of service, organizations and personnel which would continue to bring to the people of this state the best possible public health protection, and

Be It Further Resolved, That the Council after approval of such plan is directed to cooperate with the Kansas State Board of Health and the Kansas Public Health Association in presenting this plan by November 1, 1965, to the Kansas Legislative Council.

RESOLUTION NO. 23

State Board of Health and Welfare

WHEREAS, Public Health and Public Welfare are not synonymous, and

WHEREAS, in recent years the Department of Social Welfare of the State of Kansas has gradually and

persistently invaded the areas of health care for the citizens of Kansas, and

WHEREAS, such an invasion has created a duplication of services for some areas, creating confusion and additional expense to the taxpayer, and

WHEREAS, most of the health programs administered by Welfare have not been satisfactory to most of the parties concerned, due to the lack of knowledge of health problems and the people involved, therefore

Be It Resolved, That all programs, both mental health and physical health, pertaining to the health care of the people of Kansas be placed under the jurisdiction of the State Board of Health, where they rightfully belong, and administered by professional personnel trained and vitally interested in health care,

Be It Further Resolved, That the State Department of Social Welfare confine its activities to the care of the indigent in a manner acceptable to the individual County Welfare Boards and the people of Kansas.

Be It Further Resolved, That a copy of this Resolution be forwarded to the Governor of Kansas and to the Legislative Council.

RESOLUTION NO. 24

Skilled Nursing Home Organization

WHEREAS, skilled nursing homes are supplying an increasing service for convalescent patients and persons with long term illness, and

WHEREAS, HR-6675 will apparently provide financial assistance to certain persons in skilled nursing homes, therefore

Be It Resolved, That the Kansas Medical Society express its hope that an increasing number of skilled nursing homes or extended care facilities become affiliated with hospitals either through direct operation or contract, and

Be It Further Resolved, That the medical staff of the hospital either directly or through the appointment of a committee provide professional advisory staff services for each skilled nursing home with which the hospital is affiliated, and

Be It Further Resolved, That the Committee on Aging is authorized to continue its work with the Kansas Hospital Association, the Kansas State Nursing Homes Association and the Kansas State Board of Health toward the end that the above can be accomplished.

RESOLUTION NO. 25

The Skilled Nursing Home

WHEREAS, physicians are increasingly utilizing the services of skilled nursing homes for the care of their patients, and

WHEREAS, a skilled nursing home and a hospital are separately licensed and are organized to perform different functions, and

WHEREAS, these differences need to be defined, therefore

Be It Resolved, That the Committee on Aging is authorized to work with such other committees, organizations or persons as may be desired to prepare a definition which would distinguish a hospital from a skilled nursing home or an extended care facility, and

Be It Further Resolved, That this definition shall take into consideration the distinctions created by HR-6675, and

Be It Further Resolved, That the definition include a statement to the effect that a hospital primarily cares for persons with acute illness which is almost never done in a skilled nursing home, and

Be It Further Resolved, That the hospital is an institution for the care of the sick while a skilled nursing home represents an improved home environment in which certain services can be given which would not be available to the patient in his home but which can be accomplished outside hospital environment, and

Be It Further Resolved, That this definition include the concept that a physician caring for his patients within a hospital is subject to rules and regulations of the hospital professional staff while his care of a patient in a nursing home is comparable to caring for the patient in his own home.

RESOLUTION NO. 26

Kansas Medical Society Public Relations Program

WHEREAS, the finest public relations effort is obtained through the provision of adequate health care at a fair cost by every physician to each of his patients, and

WHEREAS, the public does not have a complete understanding of adequate health service and its cost, therefore

Be It Resolved, That the Committee on Public Relations be authorized to do the following:

(1) Recommend public forums similar to those conducted by the Sedgwick County Medical Society and explain to every component society in the state how these were conducted.

(2) Recommend that all societies in the state conduct meetings with farm organizations similar to those currently conducted by the Shawnee County Medical Society and the Auxiliary with the Kansas Farm Bureau.

(3) Recommend that every component society cooperate in CAREER DAYS held in the colleges and high schools of this state similar to the manner in which these are successfully carried out in a number of the societies at the present time.

(4) Recommend to each component society that

they conduct a Health Fair such as is annually prepared by the Johnson County Medical Society and Auxiliary and is directed toward stimulating interest of young people in health careers.

(5) Institute an active speakers' bureau on a state and at local level and that where sufficient interest can be obtained in this project, Smith Kline & French be invited to conduct an intensive two-day training course similar to the course they conducted recently in Wichita and should this prove not to be practical, the speech departments of nearby colleges and universities should be utilized.

(6) Prepare a traveling exhibit on the problems of medicine which would include information on the cost of hospital care and the cost of medical services and that such exhibit be placed in communities of this state according to a prepared schedule.

(7) Encourage the host society for each Annual Session to conduct at least one program in connection with the Annual Session to which the public would be invited and that this custom be established as an integral part of each Annual Session.

RESOLUTION NO. 27

Hospital Records

Resolution No. 27 was not adopted.

RESOLUTION NO. 28

Report of the Journal Editor

WHEREAS, one year ago the House of Delegates passed a resolution instructing the Editorial Board to review the "purposes, functions, and activities of the JOURNAL" and submit a report to the House of Delegates, and

WHEREAS, this was done in an excellent and thoughtful report by the Editor, therefore

Be It Resolved, That the report be accepted with gratitude to the Editor and to the Editorial Board, and

Be It Further Resolved, That recommendations in the report be adopted by the House of Delegates authorizing the Editorial Board:

(1) To seek more local advertising, probably through the services of an advertising agency on a commission basis and so attempt to balance the budget, and

(2) Not to compromise the content or the size or the style of the JOURNAL.

RESOLUTION NO. 29

Review Committees for Hospital Benefits Under MAA

Resolution No. 29 was not adopted.

RESOLUTION NO. 30**Tuberculosis**

Resolution No. 30 was referred to the committees on Tuberculosis and Public Health for further study.

RESOLUTION NO. 31**HR-6675—Anesthesiologists, Pathologists, Psychiatrists and Radiologists**

WHEREAS, the Kansas Medical Society is unalterably opposed to the inclusion of physician services in Social Security financed health legislation, and

WHEREAS, HR-6675, the King-Anderson Bill now before the U. S. Senate does exclude all physician services from such financing, and

WHEREAS, the practice of Pathology, Radiology, Anesthesiology and Physical Medicine are integral components of the practice of medicine as stated before by this House of Delegates, by the American Medical Association and by the courts, and

WHEREAS, certain amendments have been proposed in the Senate to include Pathology, Radiology, Anesthesiology and Physical Medicine as hospital services in HR-6675, and

WHEREAS, such inclusion will be disruptive to existing patterns of practice, will increase costs of the program and will result in hospital and governmental domination of the practice of medicine and set the pattern for possible future legislative inclusion of all physicians as hospital employees under Social Security, now therefore

Be It Resolved, That the Kansas Medical Society is opposed to the inclusion of any physician services in Social Security Financed Health Care Legislation, and

Be It Further Resolved, That the Kansas Medical Society, once again affirms that the practice of Pathology, Radiology, Anesthesiology and Physical Medicine are the practice of medicine and not hospital services, and

Be It Further Resolved, That the Kansas Medical Society transmit this resolution to the U. S. Senators and Representatives from Kansas urging rejection of Amendment 79, the Douglas Amendment, to HR-6675.

RESOLUTION NO. 32

Similar to Resolution No. 21; therefore, Resolution No. 32 was not adopted.

RESOLUTION NO. 33**Hospital Staff Appointments**

Tabled.

RESOLUTION NO. 34**Immunizations**

This resolution was not adopted.

RESOLUTION NO. 35**Health Care for the Aged**

No action was taken on this Resolution.

RESOLUTION NO. 36**Nurse Education**

WHEREAS, the nursing profession plays an integral part in the care of the ill, and

WHEREAS, there is no appreciable increase in the number of nurses due to multiple factors, and

WHEREAS, there has been a change in emphasis in nursing education, and

WHEREAS, doctors of medicine feel that bedside teaching was and is of utmost importance in their own training in the art of medicine; they also feel that the art of nursing requires considerable practical bedside experience.

Factors which seem to be contributing to this alarming problem in the health field include:

*(1) Change in nursing emphasis from the time-honored bedside teaching to college-type classroom teaching.

(2) Increased cost of curriculum to nursing students.

(3) Decreased use and responsibility of student nurses on floors and at the bedside.

(4) Increased cost of hospital operation.

(5) Closing of smaller nursing schools.

Therefore,

Be It Resolved, That a study be made by the Committee on Allied Groups on nursing education and on the education of Licensed Practical Nurses for possible recommendations to appropriate legislative and other groups.

RESOLUTION NO. 37**Reno County Medical Society**

WHEREAS, the 106th Annual Session of the Kansas Medical Society is considered by one and all to be one of the outstanding meetings of this Society, and

WHEREAS, the members of the Reno County Medical Society under the chairmanship of Dr. Hans T. Lettner and Dr. John N. Blank have worked long and well to bring this meeting to successful fruition, therefore

Be It Resolved, That the officers and delegates of this Society offer this resolution as a means of thanking them for their efforts.

* Reference: (Hale: "Why the Nursing Shortage Persists," *New England Journal of Medicine*, Vol. 270, No. 20, pp. 1092-97.)

RESOLUTION NO. 38**City of Hutchinson**

WHEREAS, the citizens of the city of Hutchinson have extended to the Kansas Medical Society many services and courtesies above and beyond those normally received by conventions, therefore

Be It Resolved, That a general vote of thanks be tendered those citizens of Hutchinson with particular attention to Mr. Frank Ripple, manager of the Baker Hotel; to Mr. John McCormally, editor of the *Hutchinson News*; to Mr. Carl L. Spriggs, Chief of Police; and to Mr. John W. Crutcher, Lieutenant Governor of the State of Kansas.

RESOLUTION NO. 39**Non-Participation**

Tabled.

Editorial Comment

(Continued from page 339)

grams. The recommendation was included in a report by the Subcommittee on Employment and Retirement Incomes which held four days of hearings on the subject in March.

The subcommittee endorsed two tax changes that the American Medical Association had urged in a statement to the group earlier this year. One would remove present restrictions in the Smathers-Keogh law that allows tax deferrals on money invested in pension plans by self-employed persons, including physicians. The other would allow physicians who form professional groups to have their business income treated for Federal tax purposes the same as other business corporations.

The Food and Drug Administration has proposed that foods intended to regulate the intake of fats be accurately labeled to show the amounts and classes of fatty acids, including polyunsaturates, contained in them.

The drug industry is establishing a foundation to help promote "scientific and medical research." The foundation being established by the Pharmaceutical Manufacturers Association will plan and initiate research as well as collect and distribute results of the research. It also expects to help finance research projects, the PMA announcement said. The foundation will begin work on a modest scale, "first assembling data on what now is being done in the field by industry, research and educational groups," PMA said.

PREPARATION OF MANUSCRIPTS FOR THE JOURNAL

Exclusive Publication: Articles are accepted for publication on condition that they are contributed solely to this Journal. Publication elsewhere will be subsequently authorized in the discretion of the Editor.

Correspondence: Address all correspondence relating to publication of scientific papers to the Managing Editor.

Manuscript: Type double spaced, on white paper, 8½ by 11, with one-inch margins at the top, bottom, and right, and 1½ inches on the left. Submit the original. Call drugs by their generic names. The trade names can be added, in parenthesis, if they are considered important. Keep one copy of the paper.

Footnotes and References: Use the style of the *Quarterly Cumulative Index Medicus* published by the American Medical Association, which requires, in the order given: name of author, title of article, name of periodical, with volume, pages, month—day of month if weekly—and year as follows:

4. Doe. J. E., What I Know About It, J. Kans. M. S.
54:717-719 (Dec.) 1954.

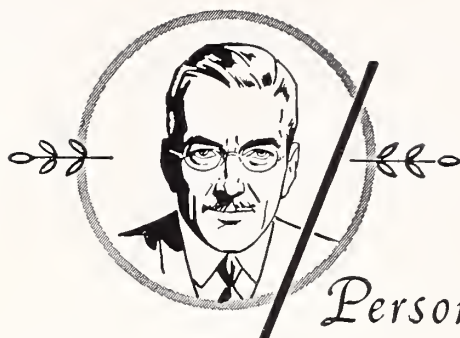
Include only those references specifically referred to in the text.

Reprints: An order slip for reprints with a table covering cost will be sent with the galley proof to each contributor.

Illustrations: A reasonable number of illustrations are allowed without cost to the author. Place the name of the author on the back of each illustration, table, etc. Submit clear and distinct, glossy photographs. Make drawings in black ink on white paper. Attach a slip of paper to the bottom of the illustration with the author's name, identification of article, and appropriate legend. Identify the top of the illustration. Photographs and drawings will be returned if so requested.

Under ordinary circumstances articles are scheduled several months in advance. Notice will be given the contributor when the article has been accepted and again before publication.

Society members throughout the state are encouraged to write up their interesting cases and submit them for publication. The editorial staff welcomes the opportunity of helping you prepare your article for the printer.



Personalities—IN KANSAS MEDICINE

Galen M. Tice, retiring chief of radiology at the University of Kansas School of Medicine, was named the 1965 distinguished alumnus by the KU Medical Alumni Association at their annual dinner meeting in June. The presentation was made by **Peter E. Hiebert** of Kansas City.

New officers installed at the meeting included Kansas City physicians **Donald Germann**, president-elect; **William E. Larsen** and **Wray Enders**, vice presidents; and **Harold Voth**, Topeka, chairman of memberships.

The American College Health Association presented its annual Hitchcock Award for outstanding contributions in the field of student health to **Ralph I. Canuteson**, Lawrence. The award was made at the annual meeting of the association held in Miami in May. Dr. Canuteson has been director of the KU student health service for 37 years.

Robert P. Hudson, assistant professor of medicine at the University of Kansas School of Medicine, has been named acting chairman of the Department of History of Medicine at the school.

Kansas District No. 1 of the American Academy of General Practice has named **John O. Baeke**, Leawood, "Family Doctor of the Year." The award was given to Dr. Baeke in June by **Hebert Nason**, Bethel, district president.

A meeting to describe the special education program for Northeast Johnson County was held in Overland Park in May. **Paul C. Laybourne**, Kansas City, and **Robert Fairchild**, Mission, participated in a panel discussion.

Charles F. Henderson, Parsons, has been design-

nated "Kiwanian of the Year" by the Parsons Kiwanis Club. Dr. Henderson was cited for his participation in all club activities and projects, including the annual Pancake Day, an event he helped originate.

In May, the Coffeyville City Teachers Association named **Stephen S. Ellis** Coffeyville's Outstanding Citizen. Dr. Ellis was chosen by the teachers because of his interest in and contribution to public education.

Robert A. Dobratz, Beloit, attended the 12th annual Western Cardiac Conference held in Colorado Springs in May.

A token of recognition for 20 years of service as medical advisor to the selective service board at Smith Center was given recently to **Victor E. Watts**, who has been a physician in Smith County for over 58 years.

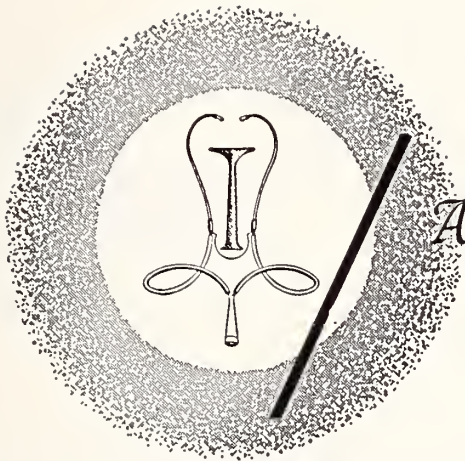
Curtis A. Nystrom has announced that he will move from Cawker City to Topeka in August.

Paul Hornung, Colby, attended a two week course in diseases of the kidney and bladder in May. The course was conducted by the Cook County School of Postgraduate Medicine and held at Cook County Hospital in Chicago.

Sigurd S. Daehnke has moved from Winfield to Honolulu, Hawaii, where he will begin a residency in internal medicine.

The Kansas State Board of Health has announced the reelection of **Robert C. Polson**, Great Bend, as

(Continued on page 370)



Announcements

Professional meetings, conferences, and postgraduate courses of national importance are listed for the DOCTOR'S CALENDAR. Notice of the session is posted in advance to allow the physician time to make preparations.

The Department of Otolaryngology, College of Medicine of the University of Illinois at the Medical Center, Chicago, will conduct a postgraduate course in Laryngology and Bronchoesophagology from September 20 to October 2, 1965. This course is limited to fifteen physicians, and will be under the direction of Paul H. Holinger, M.D. It will be held at the new Illinois Eye and Ear Infirmary, 1855 West Taylor Street, Chicago. Instruction will be provided by means of animal demonstrations, and practice in bronchoscopy and esophagoscopy, diagnostic and surgical clinics, as well as didactic lectures.

Interested registrants will please write directly to the Department of Otolaryngology, College of Medicine of the University of Illinois at the Medical Center, Post-office Box 6998, Chicago, Illinois 60680.

A nine month tutorial program in Cardiology, September 15, 1965 to June 15, 1966, will be offered by the Institute for CardioPulmonary Diseases, Scripps Clinic and Research Foundation, La Jolla, California. This will be an intensive program covering the field of cardiovascular diseases and is especially designed for the physician in private practice who wants an academic year of organized instruction with freedom from direct patient responsibility. For details, write: E. Grey Dimond, M.D., Institute for CardioPulmonary Diseases, Scripps Clinic and Research Foundation, La Jolla, California.

AUGUST

- Aug. 6-8 Doctors in Alcoholics Anonymous, Continental Plaza, Chicago. Write: Lewis K. Reed, M.D., 1950 Volney Road, Youngstown, Ohio 44511.
- Aug. 19-21 Rocky Mountain Radiological Society, Denver. Contact: John H. Freed, M.D., 4200 E. 9th Avenue, Denver 80220.
- Aug. 22-27 Flying Physicians Association, Miami Beach, Florida. Write: John C. Chatterton, Albert Carrier, Inc., 332 S. Michigan, Chicago 60604.

- Aug. 22-27 American Academy of Physical Medicine and Rehabilitation, Philadelphia. For information write the academy at 30 N. Michigan, Chicago 60602.
- Aug. 26-28 Three-day course directed to the surgically oriented physician, University of Wisconsin Medical Center, Madison. Write: Paul Knipping, 401 Extension Building, University of Wisconsin, Madison 53706.

SEPTEMBER

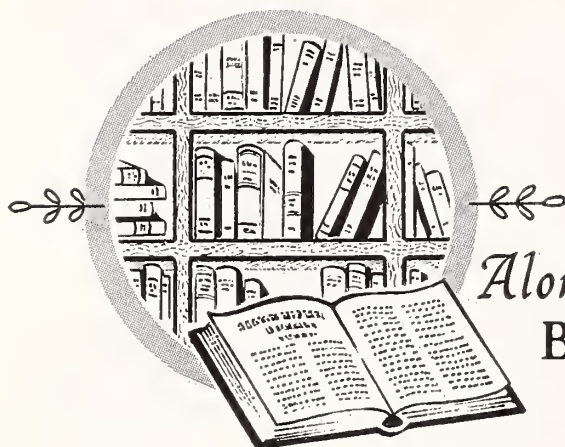
- Sept. 14-17 Annual meeting, American Association of Blood Banks, Bal Harbour, Florida. Preconvention technical seminar on hemolytic disease. Write: American Association of Blood Banks, Suite 1322, 30 N. Michigan, Chicago.
- Sept. 15 National Conference on Community Health Services, Chicago. Write: National Commission on Community Health Services, Inc., 7815 Old Georgetown Road, Bethesda, Maryland 20014.
- Sept. 16-17 Annual West North-Center Interprofessional Seminar on Diseases Common to Animals and Man, University Hospitals, Iowa City, Iowa. For details write: Dr. Wm. F. McCulloch, Institute of Agricultural Medicine, University of Iowa, Iowa City.

POSTGRADUATE COURSES

University of Colorado:

- Aug. 2-6 *Pediatrics* (Estes Park)
- Aug. 9-13 *Internal Medicine* (Estes Park)
- Aug. 16-20 *Medical Audiology Workshop* (Estes Park)

For further information write Office of Postgraduate Medical Education, University of Colorado School of Medicine, 4200 E. 9th Ave., Denver 80220.



Along The BOOKSHELF

Clendening Medical Library

Recent Acquisitions

- Applied Seminar on the Serum Proteins and the Dysproteinemias, Washington, D. C., 1963. Serum proteins and the dysproteinemias; proceedings. Lip-pincott, 1964.
- Barrington, E. J. W. Hormones and evolution. Van Nostrand, 1964.
- Berelson, Bernard and Steiner, G. A. Human behavior; an inventory of scientific findings. Harcourt, 1964.
- Berkowitz, Leonard. Aggression: A social psychological analysis. McGraw-Hill, 1962.
- Borrie, John. Lung cancer: Surgery and survival. Appleton-Century-Crofts, 1965.
- Burton, Genevieve. Personal, impersonal, and interpersonal relations; a guide for nurses. 2d ed. Springer, 1964.
- Chein, Isidor and others. The road to H: Narcotics, delinquency, and social policy. Basic Books, 1964.
- Cohen, A. R. Attitude change and social influence. Basic Books, 1964.
- Edelson, Marshall. Ego psychology, group dynamics, and the therapeutic community. Grune & Stratton, 1964.
- Etzioni, Amitai. Modern organizations. Prentice-Hall, 1964.
- Freud, Sigmund and Pfister, Oskar. Psychoanalysis and faith; the letters of Sigmund Freud and Oskar Pfister. Basic Books, 1964.
- Fulton, R. L., ed. Death and identity. Wiley, 1965.
- Gellman, I. P. The sober alcoholic; an organizational analysis of Alcoholics Anonymous. College & University Press, 1964.
- Goode, W. J. The family. Prentice-Hall, 1964.
- Gray, D. F. Immunology . . . American Elsevier, 1964.
- Gurdjian, E. S. Operative neurosurgery. 2d ed. Williams & Wilkins, 1964.
- Harris, R. J. C., ed. Cytogenetics of cells in culture. Academic, 1964.
- Hibbert, Christopher. The roots of evil; a social history of crime and punishment. Little, Brown, 1963.
- Homburger, Freddy and Bonner, C. D. Medical care and rehabilitation of the aged and chronically ill. 2d ed. Little, Brown, 1964.
- Horton, P. B. Sociology and the health sciences. McGraw-Hill, 1965.
- Hueper, W. C. and Conway, W. D. Chemical carcinogenesis and cancers. Thomas, 1964.
- International Conference on Congenital Malformations. 2d, New York, 1963. Papers and discussions. International Medical Congress, 1964.
- Klarman, H. E. The economics of health. Columbia, 1965.
- Lambert, W. W. and Lambert, W. E. Social psychology. Prentice-Hall, 1964.
- Le Roux, B. T. and Dodds, T. C. A portfolio of chest radiographs for undergraduate and postgraduate students. Williams & Wilkins, 1964.
- Levenstein, Aaron. Use your head; the new science of personal problem-solving. Macmillan, 1965.
- Luisada, A. A., ed. Examination of the cardiac patient. McGraw-Hill, 1965.
- Rabinowitch, E. I. The dawn of a new age; reflections on science and human affairs. University of Chicago, 1963.
- Rose, P. I. They and we; racial and ethnic relations in the United States. Random House, 1964.
- Rosenberg, Bernard, Gerver, Israel, and Howton, F. W. Mass society in crisis; social problems and social pathology. Macmillan, 1964.
- Song, Joseph. The human uterus, morphogenesis and embryological basis for cancer. Thomas, 1964.
- Thorne, G. D. Understanding the mentally retarded. McGraw-Hill, 1965.
- Wehrmacher, W. H. Pain in the chest. Thomas, 1964.
- Yablonsky, Lewis. The tunnel back: Synanon. Macmillan, 1965.



Book REVIEWS

DISEASES OF METABOLISM: Detailed Methods of Diagnosis and Treatment, by Garfield G. Duncan, M.D. W. B. Saunders Company, Philadelphia, 1964. 1,551 pages illustrated. \$28.

Diseases of Metabolism, edited by Dr. Duncan, has recently been published in its fifth edition. In the preface, it is stated that the purposes of this edition are identical with those leading to the first edition, and that is "To provide a bridge of useful understanding between the investigator in the wide area of metabolism and the practitioner of medicine." If it suffers any malady, it is that which is so ubiquitous in new editions, increased size. It is larger in physical size (with 1,551 pages), in scope (seven new chapters), and in depth (many re-written chapters). The arbitrary separation of metabolism from endocrinology seems perhaps more strained than usual in 1964. However, this is but a pebble on the beach, considering the excellence of the presentation in general.

The new chapters include "Inborn Errors of Metabolism" by Hsia, "The Parathyroid Glands" by Snapper and Bloom, "Metabolic Considerations in Functions and Disorders of the Digestive Tract" by Volwiler and McGuigan, "Metabolic Considerations in Functions and Disorders of the Nervous System" by Cummings, "Nutritional and Metabolic Aspects of Disorders of the Blood" by Haurani and Tocantins, "Metabolic Considerations in Disorders of the Circulatory System" by Conn and Luchi, and "Metabolic Considerations in Functions and Disorders of the Respiratory Tract" by Mayock and Goldberg. "Water Balance in Health and Disease" has replaced the chapter "Diabetes Insipidus" of previous editions. Dr. Duncan continues to author the chapters on spontaneous hypoglycemia and diabetes mellitus, and his associate, William Jenson (a Kansan), contributes the chapter "Mellituria." The bibliography is extensive, and printing errors are very few in number.

There is some overlapping of subject material. This is inevitable due to the very nature of metabolism and

because the authors were in no way restricted from expressing their opinions. Most of us, whether medical student or practitioner, learn more when there is repeated emphasis of the important considerations. Along these very lines the author states that "repetition with appropriate restraint is the mother of retention."

Just as national and international problems seem to be increasing in their complexities at an alarming rate, the details of medical diagnosis and therapy seem to be increasing algebraically. Duncan, the clinician and teacher, breaches the space between the science of medicine and "the vast clinical field." It is recommended for all students of medicine.—H.A.T.

DYNAMIC PATHOLOGY, by Maurice M. Black, M.D. and Bernard M. Wagner, M.D. The C. V. Mosby Company, 1964. 296 pages. \$8.00.

The authors of this book have succeeded in their goal of stressing the dynamic processes of homeostasis and disease. The first part of the book is devoted to a concise, up-to-date review of histology including some electron microscopy, metabolism, and homeostasis and how these are affected in general disease processes and genetic abnormalities. The second part is concerned with disease processes of a general nature such as neoplasia, deficiency diseases, aging, etc. with brief mention of specific diseases.

The book is designed for both the student and practitioner and the level of presentation varies with a few portions being too basic for the physician and some parts being too advanced for the second year student. Another defect is the occasional use of abbreviations with no prior explanation of their meaning.

Despite these minor drawbacks, the book is well worth reading for its wealth of information in relatively few pages and the vitality of its presentation. There is no deep detail and therefore it is of little value as a reference book, except possibly for some inborn errors of metabolism. Almost any physician as

well as the student will find much to gain from this dynamic book both from the up-to-date material and from renewing his visualization of the continually active processes and interrelationships of homeostasis and its alterations due to disease.—*W. W. S.*

Personalities

(Continued from page 366)

president. The election of officers was held during the Board's annual meeting in Topeka in June.

William L. Valk, Kansas City, was chosen president-elect of the American Urological Association at the group's annual convention held in New Orleans in May.

The appointment of **H. Lee Barry**, Wichita, as chief of pediatrics at Winfield State Hospital was announced in May.

Mahlon H. Delp, chairman of the department of medicine at the University of Kansas School of

Medicine was one of four KU alumni to be cited for distinguished service by the university and its alumni association. The citations were received at KU's annual commencement exercises in June.

The Mulberry Alumni Association surprised **Allen Sandidge**, Mulberry, with a plaque marking the 50th anniversary of his graduation from Mulberry high school. The presentation, given at the annual alumni banquet in June, was made by Dr. Sandidge's son, a fifth generation physician practicing in Bakersfield, California.

NEW MEMBERS

The JOURNAL takes this opportunity to welcome these new members into the Kansas Medical Society.

Edwin D. Rathbun
1148 South Hillside
Wichita, Kansas

John N. Simons
K. U. Medical Center
Kansas City, Kansas

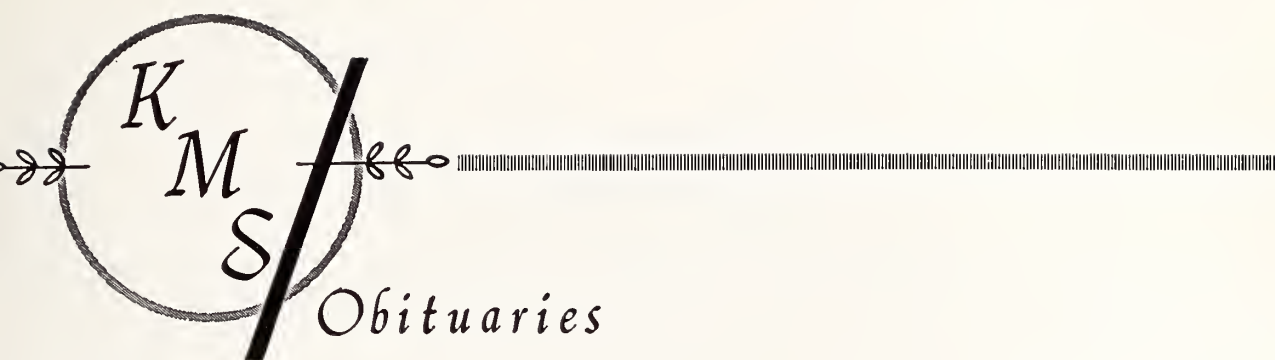
Kenneth E. Stanley
3244 East Douglas
Wichita, Kansas

KANSAS STATE DEPARTMENT OF HEALTH

TOPEKA, KANSAS

Division of Preventable Diseases—Division of Vital Statistics—Kansas Morbidity Incidence
Summary of Cases Reported in March, 1965 and 1964

Diseases	March		5-Year Median 1961-1965	January to March Inclusive		5-Year Median 1961-1965
	1965	1964		1965	1964	
Amebiasis	—	1	2	—	2	9
Aseptic meningitis	—	—	—	3	1	1
Brucellosis	—	1	1	—	1	2
Diphtheria	—	—	—	—	3	—
Encephalitis, infectious	—	1	1	5	11	5
Gonorrhea	227	269	227	613	728	682
Hepatitis, infectious	72	103	72	185	245	185
Meningococcal meningitis	2	2	1	6	4	5
Pertussis	4	2	2	8	4	8
Polio myelitis	—	—	—	—	—	—
Rheumatic fever	1	—	—	2	2	2
Salmonellosis	18	17	9	51	43	29
Scarlet fever	5	35	35	41	58	170
Shigellosis	15	28	4	29	106	29
Streptococcal infections	324	202	202	1,330	744	601
Syphilis	62	97	103	235	256	272
Tinea capitis	3	11	6	12	25	25
Tuberculosis	17	22	29	51	59	74
Tularemia	—	1	1	1	3	3
Typhoid fever	—	2	—	—	2	—



MARK A. BRAWLEY, M.D.

Dr. Mark A. Brawley, 78, died at his home in Frankfort on May 14, 1965. He had been a physician in that community for 56 years.

Dr. Brawley was born in Frankfort on October 30, 1886. After graduation from Frankfort high school, he enrolled in the University of Kansas School of Medicine, receiving his medical degree in 1909. After his internship he was offered a professorship in bacteriology and surgery at the medical school, but chose to return to Frankfort to begin his medical practice in association with his father.

Survivors include his wife and a sister.

RALPH E. CHENEY, M.D.

Dr. Ralph E. Cheney, Salina ophthalmologist for nearly 45 years, died June 6, 1965, at St. John's Hospital in Salina. He was 70 years old.

He was born January 15, 1895 at Gypsum, Kansas. After graduation from St. Louis University School of Medicine in 1921, and completion of his internship in St. Louis, Dr. Cheney came to Salina. He served as Lieutenant Colonel in the medical corps during World War II. He was a member of several civic and fraternal organizations.

Surviving Dr. Cheney are his wife and two daughters.

ARTHUR W. CORBETT, M.D.

Dr. Arthur W. Corbett, a long-time Emporia physician, died in a nursing home in Ottawa on May 12, 1965. He was 83 years old.

Born in 1882 at Emporia, Dr. Corbett graduated from the University of Louisville School of Medicine in 1911 and shortly thereafter returned to Emporia to establish his practice. Except for several years spent in service during World War I, Dr. Corbett practiced medicine in Emporia until his retirement a few years ago.

R. DALE DICKSON, M.D.

Dr. R. Dale Dickson, 55, Topeka, died on May 18, 1965, at a Houston, Texas, hospital where he was undergoing medical treatment.

He was born January 25, 1910, at Caldwell, Kansas, and attended schools in Wichita. He was graduated from the University of Kansas School of Medicine in 1937 and practiced in Gibsonburg, Ohio, from 1938 until 1942 when he entered the U. S. Army. After his discharge from the service in 1946, Dr. Dickson moved to Topeka, practicing there until his death.

Survivors include his wife, a daughter and two sons.

EARL J. FROST, M.D.

Dr. Earl J. Frost, 75, died at his home in Wichita on June 5, 1965.

He was born in Albuquerque, New Mexico, on December 19, 1889, and moved to Wichita when a young boy. He attended Wichita schools and was graduated from Marquette Medical School in 1915. He studied radiology at Cornell University. After serving with the Army Medical Corps during World War I, he returned to Wichita to practice medicine.

Dr. Frost is survived by his wife.

ENOS A. NELSON, M.D.

Dr. E. A. Nelson, 88, a physician in Phillipsburg for more than 60 years, died May 31, 1965, at LaJolla, California.

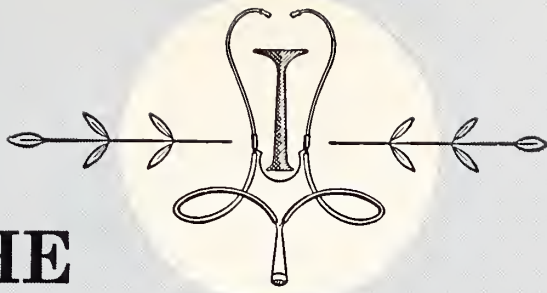
He was born June 11, 1876, at Cora, Kansas, and later his family moved to Smith Center. After serving in the hospital corps during the Spanish-American War he entered the University Medical College of Kansas City, Missouri, receiving his medical degree from that school in 1902. After graduation he moved to Phillipsburg and continued his practice there until his retirement in 1963.

He is survived by his wife, a daughter and two sons.

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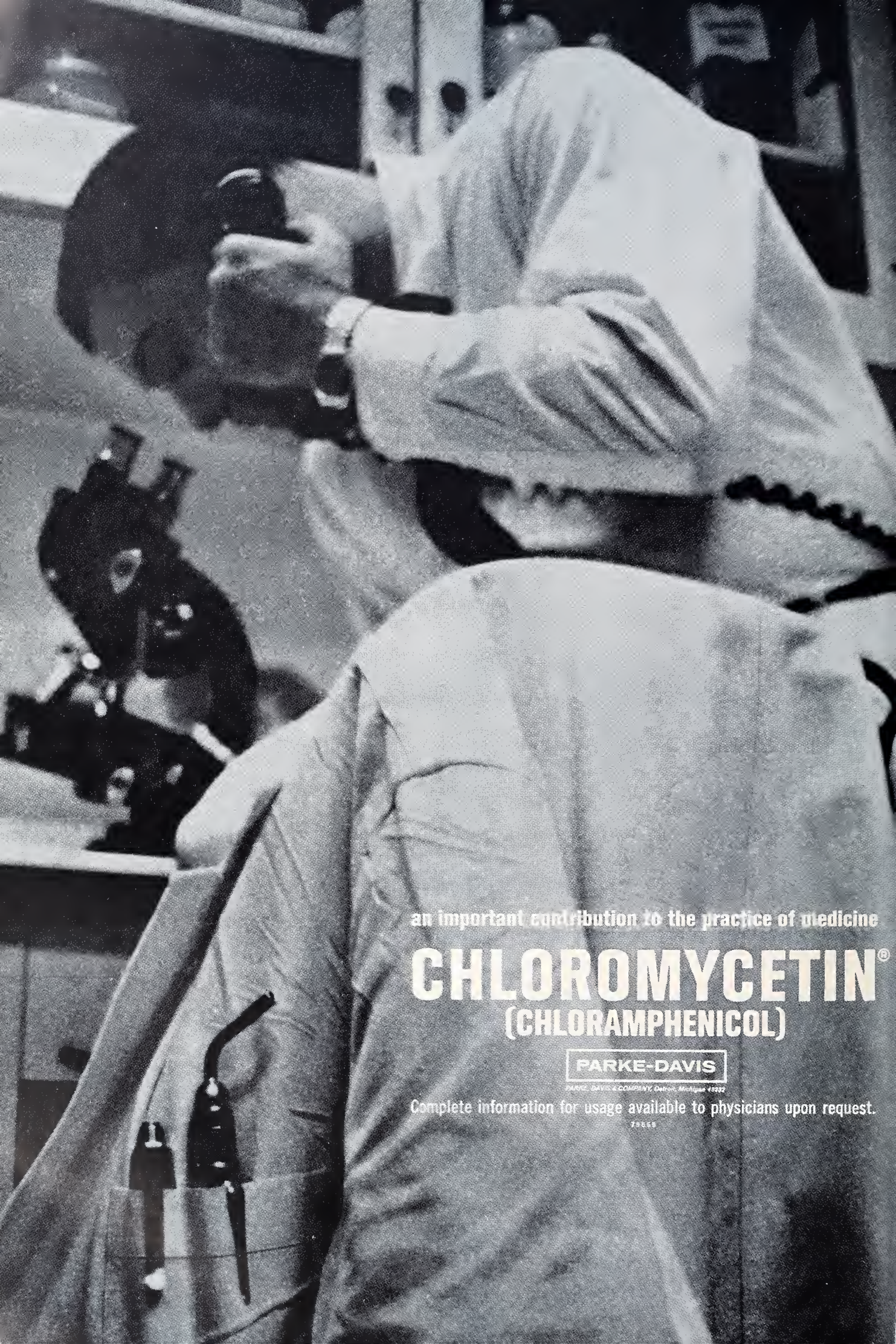
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(1) Frykman, H.M.: *Minn. Med.*, Vol. 38, Jan. 1955. (2) Poth, E.J.: *The J.A.M.A.*, Vol. 163, No. 15, April 13, 1957. (3) McGivney, J.: *Texas State Jour. of Med.*, Vol. 51, No. 1, Jan. 1955. (4) Stern, F. H.: *Jour. of The Amer. Ger. Soc.*, Vol. 11, No. 3, Mar. 1963. (5) Weekes, D. J.: *N.Y. State Jour. of Med.*, Vol. 58, No. 16, Aug. 1958. (6) Abbott, P.L.: *Jour. of Oral Surg., Anes. & Hosp. Dental Serv.*, Vol. 19, July 1961. (7) Weekes, D. J.: *E.E.N.T. Digest*, Vol. 25, No. 12, Dec. 1963.

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The JOURNAL of the KANSAS MEDICAL SOCIETY

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American College of Surgeons Kansas Chapter

Published in this issue are five of the papers presented at the annual meeting of the Kansas Chapter of the American College of Surgeons, held in Kansas City, Kansas, on October 25, 1964.

The Editorial Board would like to thank the authors for the interest they have shown in the JOURNAL by submitting their papers for publication.



Rupture of the Spleen

Infectious Mononucleosis Complicated by Rupture of the Spleen: A Report of Three Cases

KENNETH E. HEDRICK, M.D. and
HANS T. LETTNER, M.D., *Hutchinson**

THE ONSET OF INFECTIOUS mononucleosis is usually insidious with findings of lethargy, pharyngitis and cervical lymphadenopathy. The disease is known for its benign prolonged course and complications seldom occur. However, this is one of the diseases in which a large, soft, friable spleen may develop so as to be susceptible to rupture. Splenic rupture is a relatively rare complication of infectious mononucleosis, but is reported as the most common cause of death in this disease. The purpose of this paper is to show that the presenting manifestation of infectious mononucleosis may be rupture of the spleen.

The category of "spontaneous" rupture is nebulous because the offending trauma may be trivial or unnoticed. The first reported case of spontaneous rupture of the spleen associated with infectious mononucleosis was by King in 1941. By 1955, twenty-one of these ruptured spleens following little or no trauma had been reported. Only scattered cases have been reported since that time.

The etiology of infectious mononucleosis is unknown, but it is most likely viral. The protean symp-

This paper includes the report of three cases of infectious mononucleosis in which the disease became clinically manifested by rupture of the spleen. This rare but serious complication of infectious mononucleosis can occur with practically no pre-rupture symptoms and with only minimal trauma. It is vital to make a prompt diagnosis when splenic rupture occurs so that the life saving transfusions and splenectomy can be accomplished without hesitation.

tomatology is due to the widespread involvement of body tissues. Diffuse engorgement of lymphoid tissues occurs with perivascular aggregates of normal and abnormal lymphocytes. Lymph nodes and the spleen are the primary targets with fewer lesions occurring in the liver, heart, lungs, skin and nerve tissues. Involvement of these organs may give rise to various complications such as hepatitis, myocarditis, thrombocytopenia, and nervous system abnormalities as well as rupture of the spleen. This widespread dis-

* Presented at the annual meeting of the American College of Surgeons, Kansas Chapter, October, 1964.

tribution of tissue involvement is the reason that so many other diseases are mimicked by infectious mononucleosis.

Case reports

CASE 1

This 18-year-old white male was admitted to the hospital several hours after scuffling with his brother. He had upper abdominal pain and some pain in both shoulders. Prior to this he had had some lethargy for four weeks, but no respiratory symptoms.

Physical examination revealed a healthy appearing patient with abdominal pain and vomiting. The pharynx, neck and chest were normal. The abdomen had generalized muscle spasm and upper abdominal tenderness, but bowel sounds were normal. Blood counts revealed a mild anemia and a moderate lymphocytosis.

On the second hospital day an exploratory laparotomy revealed a large ruptured spleen which was removed. The patient was discharged on his ninth postoperative day after a good recovery. A postoperative heterophile titer was 1:3584.

Pathological examination of the spleen revealed a 490 gm. organ with capsular tears. The follicular and trabecular markings were diminished because of engorgement with mononuclear cells. The findings were characteristic of changes due to infectious mononucleosis (*Figure 1*).

CASE 2

This 16-year-old white male was admitted to the hospital following injury in a football game. He was complaining of generalized abdominal pain radiating to both shoulders along with weakness and vomiting. Prior to this he had been well except for tiredness and a mild cough of about two weeks duration.

Physical examination revealed an acutely ill and pale patient with signs of shock. There was generalized abdominal tenderness with muscle spasm and dullness in the left upper quadrant. A blood count showed a mild anemia with a moderate lymphocytosis.

Because of progressive shock, the patient was transfused and a laparotomy was performed. A 360 gm. lacerated spleen was removed which showed histological changes consistent with infectious mononucleosis. A postoperative heterophile titer was 1:224. Except for some postoperative fever, the patient had a good postoperative course.

CASE 3

This 42-year-old white male reported to his doctor the day prior to admission because of a sore throat and fever. A diagnosis of pharyngitis was made and



Figure 1. The capsule of this ruptured spleen has been infiltrated with abnormal mononuclear cells which have also distorted the follicular and trabecular markings.

penicillin was given for two days. On the second afternoon the patient collapsed on his way to the bathroom and was taken to the hospital. On admission he was complaining of pain in his lower chest, upper abdomen and both flanks.

Physical examination revealed a severely ill and vomiting patient with findings of shock. The abdomen had generalized tenderness but was soft. It was without muscle guarding or rigidity. A diagnosis of profound shock, possibly due to coronary thrombosis, was made. Vasopressors and intravenous hydrocortisone were ineffective. The patient died before transfusions could be given. A blood count revealed a leucocytosis of 88,000 with 90 per cent atypical mononuclear cells of the Rieder variety. A postmortem heterophile titer was 1:224.

An autopsy revealed large amounts of blood in the peritoneal cavity and a 740 gm. spleen. The splenic capsule was ruptured and retracted about the hilum. Microscopic findings were consistent with infectious mononucleosis.

Discussion

These cases demonstrate how rupture of the spleen can occur in unrecognized cases of infectious mononucleosis with but minimal trauma. The large, friable spleens were very susceptible to rupture. In these cases infectious mononucleosis existed with only minimal symptoms before rupture occurred. A diagnosis

TABLE 1
CASE REPORTS

<i>Findings</i>	Case 1 (18 Year Old Male)	Case 2 (16 Year Old Male)	Case 3 (42 Year Old Male)
1. Pre-rupture symptoms	1. Lethargy	1. Lethargy, mild cough	1. Sore throat, fever
2. Type of trauma	2. Scuffling	2. Football injury	2. Walking to bathroom
3. Presenting symptoms	3. Abdominal pain, emesis, shoulder pain	3. Abdominal and shoulder pain, weakness, nausea and vomiting	3. Pain in lower chest and upper abdomen, symptoms of shock, emesis
4. Physical findings	4. Generalized abdominal muscle spasm, upper abdominal tenderness	4. Findings of shock, generalized abdominal tenderness, LUQ spasm	4. Findings of shock, generalized abdominal tenderness
5. Laboratory findings	5. Lymphocytosis, mild anemia, heterophile (post op) 1:3584	5. Moderate lymphocytosis, heterophile (post op) 1:224	5. Severe leukocytosis (lymphocytosis), heterophile (post mortem) 1:224
6. Pathological findings	6. Ruptured spleen, 490 gm., with infiltration of mononuclear cells	6. Ruptured spleen, 360 gm., with infiltration of mononuclear cells	6. Ruptured spleen, 740 gm., with infiltration of mononuclear cells
7. Outcome	7. Splenectomy—well	7. Post operative fever—well	7. Shock—death in one hour

of infectious mononucleosis, as in those cases reported by Walton, was made only after surgery or autopsy.

Symptoms of a ruptured spleen are those of free blood in the peritoneal cavity. Abdominal pain may be localized or generalized depending upon the amount of bleeding. The pain is usually referred to the shoulder. Nausea and vomiting are common. Findings of shock can be evidence of massive bleeding and may overshadow the usual symptoms and signs. Abdominal tenderness, muscle spasm, and dullness may be localized or generalized. An x-ray may show haziness, an elevated diaphragm and displaced bowel. A diminished blood volume or hematocrit may help serve as an index when bleeding is slow. Peritoneal taps can often help establish the prognosis of free blood in the peritoneal cavity.

A persistent lymphocytosis with atypical lymphocytes is most pronounced about the second or third week in infectious mononucleosis, at which time the heterophile titer rises. Free blood from a ruptured spleen will cause a shift to the left in a differential count. Heterophile antibodies which agglutinate sheep erythrocytes usually appear within the first two weeks of illness and may persist from four to eight weeks or longer.

Infectious mononucleosis causes histological changes in the spleen, which are pathognomonic of the disease, as in *Figure 1*. The capsule, which is usually

acellular and fibrous, exhibits aggregates of invasive appearing lymphocytic cells. Similarly, infiltrations occur in the trabeculae and wall of blood vessels. The failure of these proliferating cells to observe capsular and trabecular restraint is a common feature in infectious mononucleosis and explains the increased susceptibility to rupture.

Management

It is fortunate when a diagnosis of infectious mononucleosis can be established before the rare complication of splenic rupture occurs. The management is preferably one of prevention in that a patient with the diagnosis should be restrained from strenuous activity. In addition the doctor should palpate these spleens in a gentle manner.

The surgical management of a ruptured spleen is one of action once the presence of free peritoneal blood is strongly suspected. Whole blood for the use of transfusions should be made available and laparotomy should be performed promptly.

References

1. Hoagland, R. J. and Hensen, H. M.: Splenic rupture in infectious mononucleosis. *Ann. Int. Med.*, 46:1184-1191, 1957.
2. Husni, E. A.: Spontaneous rupture of the normal spleen. *Arch. Surg.*, 83:286-290, 1961.
3. King, R. B.: Spontaneous rupture of spleen in infec-

tious mononucleosis: Report of a case. *New England J. Med.*, 224:1058-1060, 1941.

4. Melville, H. J.: Spontaneous rupture of the spleen complicating infectious mononucleosis. *Med. J. of Australia*, 1:356-358, 1955.

McClure, J. N., Jr. and Huie, R. A., Jr.: Spontaneous rupture of the spleen in infectious mononucleosis: A case report. *Amer. Surg.*, 26:776-777, 1960.

6. Orloff, M. J. and Peskin, G. W.: Spontaneous rupture of the spleen: A surgical enigma. *Int. Abstr. Surg.*, 106:1, 1958.

7. Poff, N. L. and Lawrence, R.: Spontaneous rupture of the spleen in infectious mononucleosis. *Arch. of Int. Med.*, 100:311-313, 1957.

8. Smith, E. B. and Custer, R. P.: Rupture of the spleen in infectious mononucleosis: Clinico-pathologic report of seven cases. *Blood*, 1:317-333, 1946.

9. Sullivan, J. M. and Wasserman, B. E.: Spontaneous rupture of the spleen due to infectious mononucleosis. *JAMA*, 134:144-145, 1947.

10. Wagman, G. F.: Spontaneous rupture of the spleen in infectious mononucleosis. *Arch. of Path.*, 64:457-463, 1957.

11. Walton, T. T., Jr.: Splenic rupture in infectious mononucleosis. *Texas J. Med.*, 59:333-334, 1963.

12. Zeifer, H. D. and Klaue, K.: Rupture of the spleen in infectious mononucleosis. *N. Y. J. Med.*, 1:1853-1855, 1962.

13. York, W. H.: Spontaneous rupture of the spleen: Report of a case secondary to infectious mononucleosis. *JAMA*, 179:170-171, 1962.

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- Antibiotics
- Anticholinergics
- Antinausea tablets
- Anti-parasites, oral (especially Povan, Delvex (dithiazanine), Alcopar, Atrebin, Crystoids (hexylresorcinol), piperazines
- Anti-tuberculosis drugs (especially streptomycin and isoniazides)
- Chlordiazepoxide (Librium or similar drugs)
- Corticosteroid ointments, injections, tablets
- Cough preparations

Diabetic drugs, oral

Digestive enzymes

Disinfectants

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Ether

Eye drops, ear drops, eye ointments (especially tetracyclines)

Fungicides, oral

Furacin ointment

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Urgently needed supplies and equipment, which can be second-hand but functional:

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Airway Reconstruction . . .

. . . After Abductor Paralysis of the Vocal Cords

F. R. KIRCHNER, M.D.,* P. S. TOLEDO, A.B., and
R. M. MURPHY, A.B., *Kansas City, Kansas*

THE FUNCTION of the larynx can best be understood by a study of its origin in relation to primitive needs. The most primitive larynx is encountered in certain species of mud-fish, in which this organ provides the means of survival when the source of water supply is undependable. Such species inhabit rivers which periodically become dry, and their development of lung buds, capable of absorbing oxygen of inspired air, gave these species the chance to survive out of water.

The development of these respiratory appendages posed new problems in that, being connected to the pharynx, they needed to be protected from food and other foreign materials. As a protective mechanism, there appeared at the proximal end of this primitive trachea, a band of circulatory muscular fibers the function of which was that of a primitive sphincter.

In these primitive larynges only constricting fibers are found and dilation is brought about solely by relaxation of these muscular bands.

In higher forms of lung-fish, two separated groups of muscular fibers can be differentiated; the constricting ones (adductors) and those that dilate (abductors). The function of adduction, nevertheless, remains the most primitive so that under adverse conditions it is retained after the function of abduction is lost.¹

Anatomy

The human larynx contains five pairs of intrinsic muscles which effect the approximation, dilation, and the elongation or tension of the different endolaryngeal structures. Of all these muscles only one pair, the posterior cricoarytenoid muscles, have the function of abduction, and therefore are the only dilators of the glottic chink (*Figures 1 and 2*).

Probably no other phase of laryngology has received so much attention as the nervous control of the muscles of the larynx, or been the source of so much dispute. Frequently, anatomical findings have not always coincided with the result of physiological

experimentation, and numerous conflicting thoughts still exist.

The motor supply of the intrinsic muscles of the larynx in humans is afforded by the recurrent nerves, and it is generally agreed that they supply these muscles, except the cricothyroideus, which is supplied by the external branch of the superior laryngeal nerve.

Fairly recent histological studies have suggested

Patients suffering from abductor (midline) paralysis of the vocal cords require an immediate re-establishment of their airways through a low tracheostomy.

Arytenoidectomy is the procedure of choice for the permanent reconstruction of the airways on these patients.

that the interarytenoid muscles contain motor branches originating from the superior and the inferior (recurrent) laryngeal nerves. However, other authors have dismissed this possibility due to the fact that they have not been able to demonstrate a response of these muscles by stimulating the superior laryngeal branch of the vagus nerve.²

Experimental Physiology

Many investigators have reported upon the results of experiments dealing with paralysis following section of the laryngeal nerves. It is generally agreed that in humans when all fibers of a recurrent laryngeal nerve are cut, the vocal cord on that side will establish itself in a median position.

Confusion exists regarding the effect of sectioning the recurrent laryngeal nerve, because in man no consistent pattern has been established following its destruction. An explanation has been afforded by the demonstration of the variability of the branching of this nerve before it enters the larynx. Such extralaryngeal branching of the nerve trunk, which according to different authors occurs in 25 per cent of the cadavers studied,³ suggests the possibility of branches to several muscles remaining unharmed while others are rendered non-functional after injury.

*Research Laboratory, Department of Otolaryngology, University of Kansas School of Medicine.

This paper was presented at the annual meeting of the American College of Surgeons, Kansas Chapter, October, 1964.



Figure 1. Vocal cords in adduction.

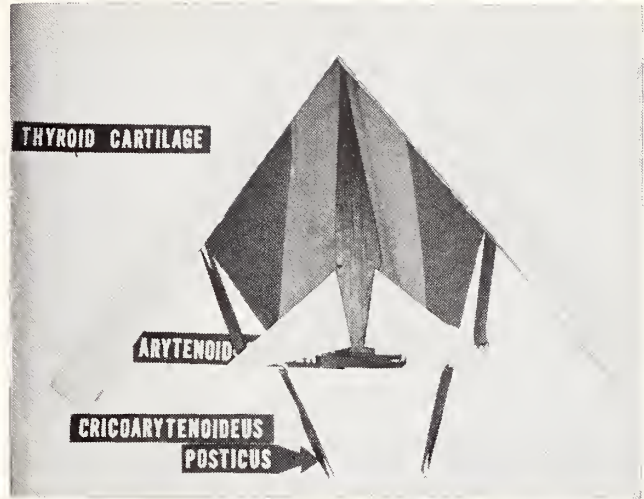


Figure 2. Vocal cords in abduction.

Etiology of Laryngeal Paralysis

Vocal cord paralysis is usually classified as central or peripheral in origin. Central lesions account for about ten per cent of vocal cord paralysis and usually are the result of pathological changes in the brain and may involve the cortical cells at the origin of the vagus nerve, at the medulla oblongata, or at the jugular foramen.⁴ The most common lesions occur in the peripheral nerve and account for about 90 per cent of the cases. The long and exposed trajectory of these nerves in the neck, chest, and mediastinum makes them particularly susceptible to trauma and external injury.

Bilateral midline abductor vocal cord paralysis is usually secondary to recurrent nerve injury caused by operations in the lower neck in the area of the thyroid gland. This condition is characterized by difficulty in opening the larynx because of a disturbance in the motor nerve supply. Both posterior cricoarytenoid muscles are paralyzed, causing loss of abduction. There may be some stridor on inspiration since the larynx is closed. The vocal cords remain in the midline position. This explains the severity of these types of paralysis, and an emergency tracheotomy may be necessary to save the patient's life. Dyspnea is a constant and dangerous symptom. In contrast, the voice may be quite adequate due to the close approximation of the vocal ligaments.

Diagnosis

To confirm the diagnosis of bilateral midline paralysis of the vocal cords an indirect mirror examination of the larynx while the patient is awake is mandatory. Direct examination of this organ with a laryngoscope, or with the patient under general anesthesia, might lead to false diagnostic impressions due to the distortion produced in the larynx by this instrumentation.

Partial injury to the recurrent nerves can produce a temporary bilateral abductor paralysis of the vocal cords. These patients require an immediate re-establishment of their airways through a low tracheostomy and a follow-up consistent with periodical indirect laryngoscopies with a mirror. Only after complete vocal cord mobility and the patency of the airway is confirmed by indirect laryngeal examination should these patients be considered suitable candidates for decannulation.

A diagnosis of complete and definitive abductor paralysis in the majority of cases is ascertained after six months of repeated laryngeal examinations.

Many operations have been devised for the reconstruction of the airway in this type of laryngeal paralysis, and many of these techniques have been abandoned due to their poor results. King, in 1939, presented a new approach to bilateral abductor paralysis of the vocal cords by centering his surgical attack upon the arytenoid. His experiences in this regard led him to the conclusion that the "gateway to the reconstruction of the airway is the arytenoid" (Figures 3 and 4).

Surgical Correction

One of the techniques for reconstruction of the airway that has produced satisfactory results is the excision of the arytenoid through an endoscopic approach.⁶ In this procedure, no external incision is required and the entire operation is done through a laryngoscope. With this technique, the amount of possible complication is minimized and the presence of unsightly scars in the neck is avoided.⁷

Conclusions

(1) Abductor (midline) paralysis of the vocal cords is usually secondary to a lesion along the trajectory of the inferior recurrent laryngeal nerves.

(2) Diseases and surgical procedures of the thy-

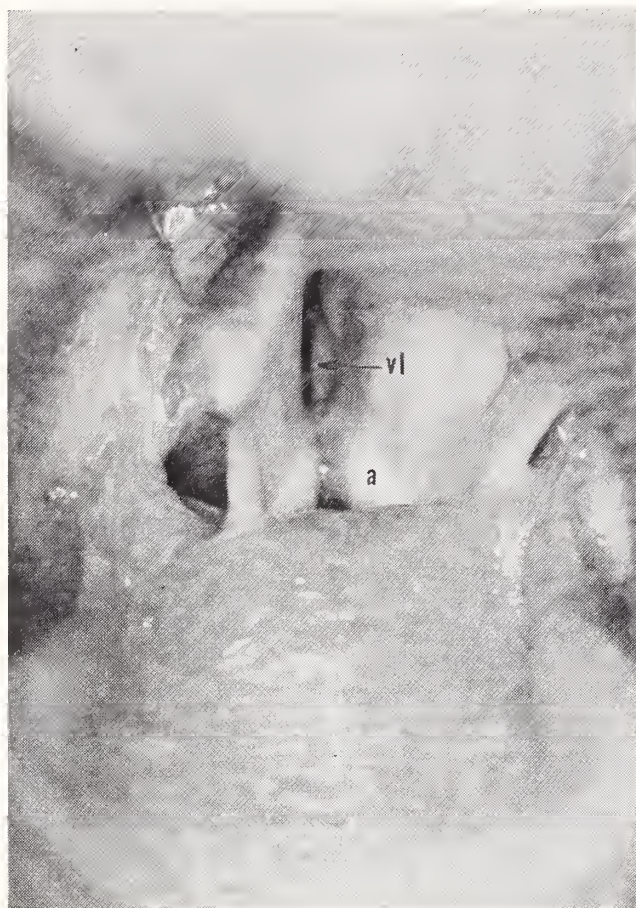


Figure 3. Abductor paralysis of the vocal cords. vl. Vocal ligament. a. Arytenoid.

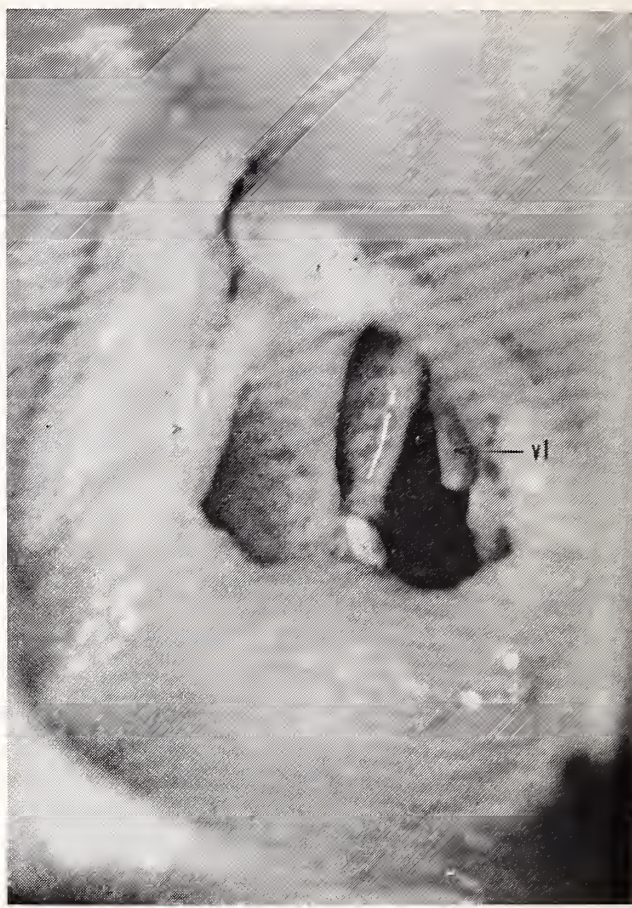


Figure 4. Larynx after right arytenoidectomy. vl. Vocal ligament.

roid gland are the most common source of these laryngeal nerve injuries.

(3) These patients demand an immediate re-establishment of their airways through a low tracheostomy. Abductor paralysis of the vocal ligaments should be confirmed by an indirect mirror examination of the larynx.

(4) Arytenoidectomy is the procedure of choice for the reconstruction of the airway after the diagnosis of permanent abductor paralysis of the vocal cords is ascertained.

References

1. Pressman, J. J., and Kelemen, G.: Physiology of the larynx. *Physiol. Rev.* 35:3, 1955.
2. Williams, A. F.: The nerve supply of the laryngeal muscles. *J. Laryng. and Otol.* 65:343, 1951.
3. Morrison, L., and Rustad, W.: Revised anatomy of the recurrent laryngeal nerves. Surgical importance based on the dissection of 100 cadavers. Preliminary report. *Laryngoscope* 62:237, 1952.
4. Clerf, L. H., and Baltzell, W. H.: Re-evaluation of Semon's hypothesis. *Laryngoscope* 63:693, 1953.
5. King, B. T.: New and function-restoring operation for bilateral abductor paralysis; preliminary report. *JAMA* 112:814-823, March 4, 1939.
6. Thornell, W. C.: Intralaryngeal approach for arytenoidectomy in bilateral abductor paralysis of vocal cords; preliminary report. *Arch. Otolaryng.* 47:505-508, April, 1948.
7. Kirchner, F. R., and Toledo, P. S.: Reconstruction of the airway after abductor paralysis of the vocal cords. Movie, University of Kansas School of Medicine, 1964.

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Meat Grinder Injuries

Gruesome and Disabling Injuries

W. G. CAUBLE, M.D.,* *Wichita*

SEVERE MEAT GRINDER injuries are not common in a general surgical practice and because of this, I wish to report the following three cases.

Case 1

Mrs. W. M., a 47-year-old, white female, was first seen April 15, 1955, as an emergency at Wesley Hospital. She had been working for a wholesale meat and locker company, grinding meat. She gave a history of accidentally getting her right hand caught in the heavy grinder she was using. This completely amputated her right forearm just superior to the mid-portion and her co-workers wrapped heavy meat wrapping twine around the stump to prevent bleeding. They had pulled her upper extremity from the grinder. She was taken to surgery soon after coming to the hospital and received one pint of whole blood during the surgery. The stump was debrided, bleeders were tied and the stump closed. The proximal one fourth of the forearm remained. The patient was given routine post-operative care and subsequently dismissed from the hospital on May 7, and she received physiotherapy, mainly whirlpool baths. The stump healed well and she was later fitted with a prosthesis and she did very well. She obtained both a hook type prosthesis and an artificial hand.

Case 2

D. A., a 17-year-old, white male, was first seen July 3, 1961, as an emergency at St. Joseph Hospital. He was working in a meat market in a neighboring town and caught his right hand in a large meat grinder. He was given Demerol by his local doctor, prior to coming to the hospital. The grinder was detached from the table and was carried to the hospital with the patient's hand and forearm being caught and remaining in it. He apparently had lost very little blood and was not in any shock. His fingers and hand were coming out of the lower end of the grinder (Figure 1). He was taken to surgery, given a general anesthetic and the grinder removed. Debridement and a revision of the stump was done. His convalescence was quite good and on November 24, he was fitted with his prosthesis. He received rehabilitation and has done quite well. At the present time, he is a student

Three cases of severe meat grinder injuries are reported and a general discussion of their care is presented. A short résumé of treatment of forearm amputations, along with certain important recommendations concerning amputations of all kinds, is given.

in one of the state teachers' colleges. He is quite anxious to receive an education.

Case 3

R. M., an 18-year-old, white male, was first seen December 26, 1961, as an emergency at St. Joseph Hospital. He was working in the meat department of a grocery store at the same town where D. A. (Case 2) was working, and he stated he was cleaning a large meat grinder and slipped on a small piece of meat, causing him to fall into the grinder with his right hand. He was seen by his local doctor, given Demerol for pain, and brought to the hospital with his hand still in the grinder, similar to Case 2 (Figure 2). He was taken to the operating room where he was given a general anesthetic and the

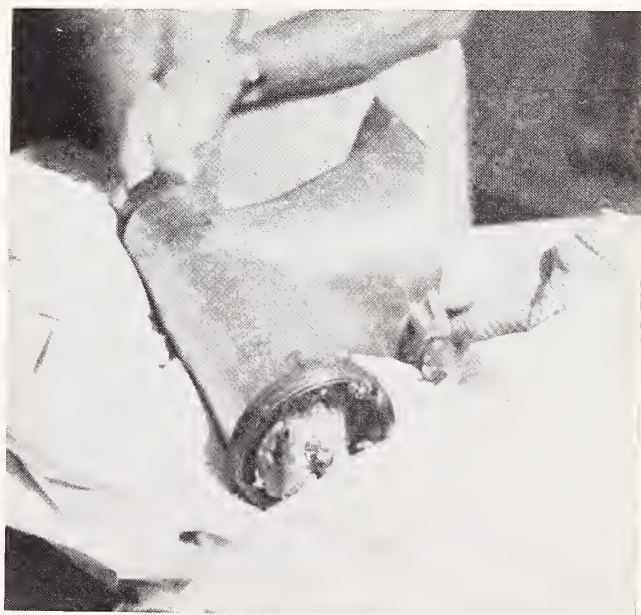


Figure 1

* Presented at the Annual Meeting of the American College of Surgeons, Kansas Chapter, October, 1964.

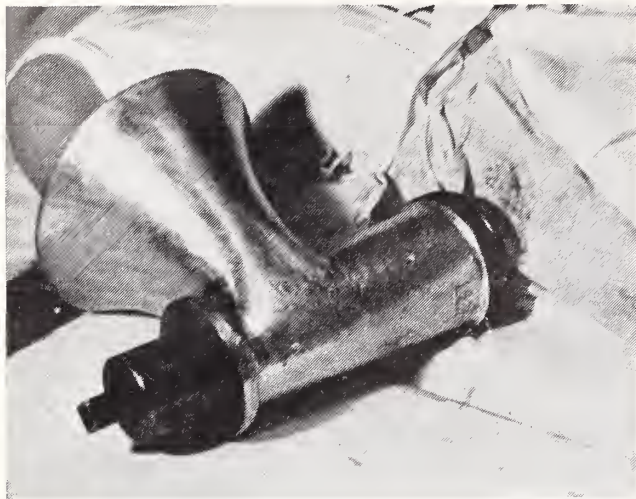


Figure 2

grinder removed. The forearm stump was revised, debrided and closed. This patient also was not in shock and apparently had lost very little blood. His convalescence was quite good and during the following March, he was fitted with a prosthesis. He has done quite well with this and was dismissed in May, 1962.

It is interesting to note that these three cases have some similarities, namely, none lost very much blood. This is probably because the vessels of the forearm are crushed by the grinder, thus sealing them off and preventing severe hemorrhage. The woman was given one pint of whole blood while the two boys did not receive any transfusions. None were in shock on ad-



Figure 3

mission to the hospital. All three cases were almost amputated at identical levels (*Figures 3 and 4*). All were of the right forearm, none had been using the guards which they were supposed to be using on the grinders at the time of injury. All three healed per primam. *Figure 5* shows the type of prosthesis with which they were fitted. This is the "dress up" type. They were also fitted with the hook type.

Most meat processing shops have guards which are to be used on the meat grinders (*Figure 6*). These apparently slow the process of meat grinding and the workers do not like to use them. One type of grinder is used which does not have a large opening and the workers use a wooden stomper to feed the meat into the grinders instead of using their hands. (*Figure 7*). This type would appear to be safer than the large open-top grinder shown in the previous figures.

Something might be said concerning the treatment of such trauma cases. First, the patient must be freed

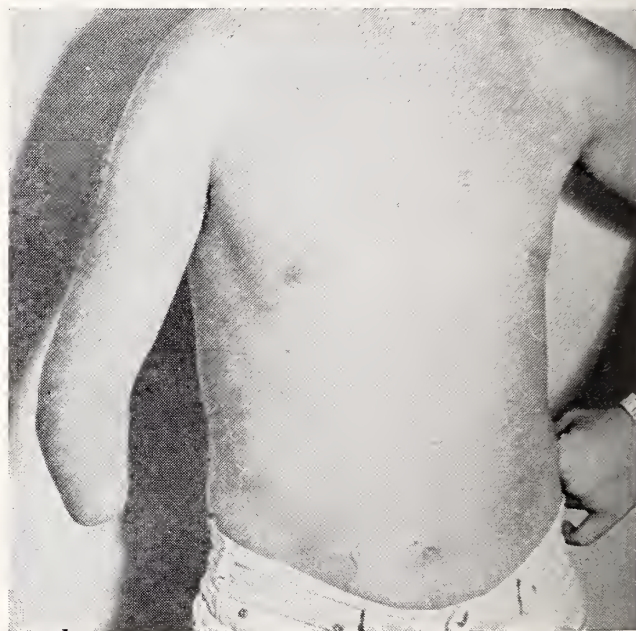


Figure 4

from the grinder if he is brought to the hospital with the grinder attached, as were two of these cases. In these two cases, only a few tendons were holding the extremity in the grinder. Good surgical principles and technique must be carried out in the care of the stump. Hall and Bechtol, in discussing amputation techniques in the upper extremities, state the following attributes are desired in a good healed stump: (1) Freedom from pain; (2) Motion of sufficient range in residual joints, and (3) Muscle power equal to prosthetic demands. They classify the amputation levels, and the level of amputation as shown in these cases would be called medium below-the-elbow. They rec-

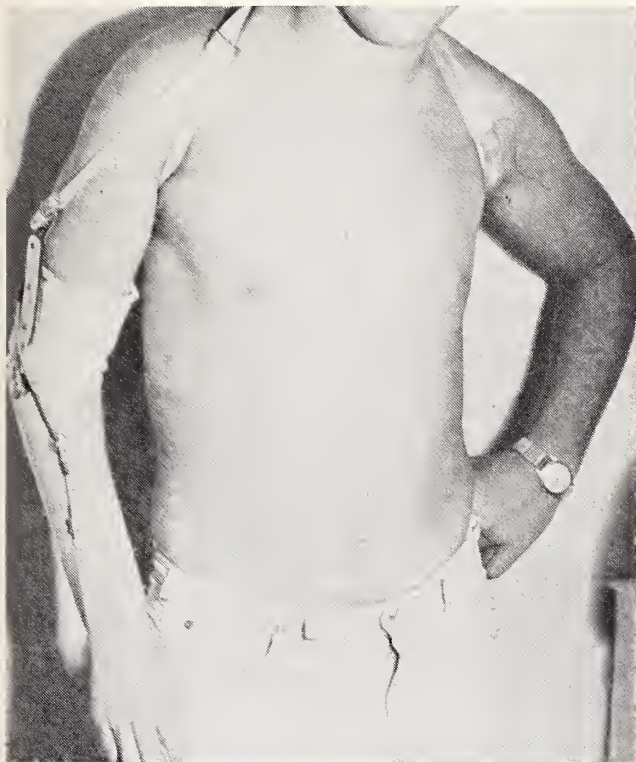


Figure 5

stump" is not desirable. The stump should be no wider than it is long. Burnham recommends beveling the ends of the bones about one-eighth inch. He also advises compression dressings following surgery. This was carried out with these three cases.

Compere, in discussing amputations in general, recommends meticulous hemostasis. He states that the simplest treatment of the large nerves is the best treatment and he states they should not be ligated or injected. He recommends that traction be applied to the nerves and they should be sectioned high in a transverse manner with a sharp knife. He thinks sectioning them with scissors contributes to contusion and development of neuromas. The nerves should be allowed to retract into the fascial plane and muscles. If satisfactory hemostasis is obtained, drainage is not necessary. Follow-up of these patients is quite important and the surgeon should play an important part in the rehabilitation and in helping them obtain

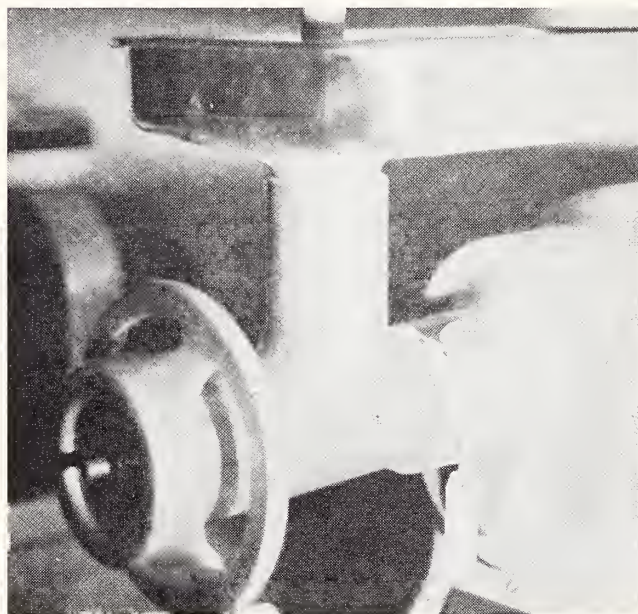


Figure 7

commend avoidance of scar over exposed surface of the radius, terminal scar if possible. The nerves should be identified and divided 2 cm proximal to the bone ends. They recommend excision of a proximal periosteal cuff, one-fourth inch wide. The sublimis myofascial flap should be sutured to the dorsal musculature and the remaining muscles divided at the level of the bone ends. In amputations of the very short below-the-elbow area, they say that a "fat

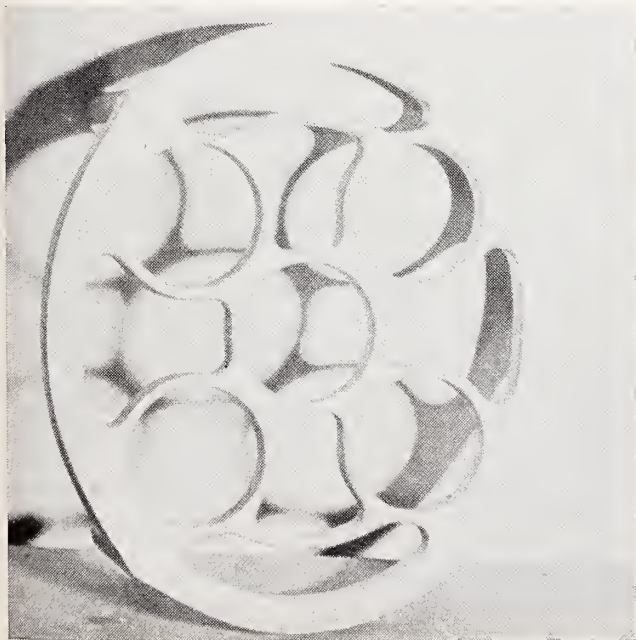


Figure 6

a good prosthesis. Psychological trauma produced by these amputations should also be taken into consideration by the surgeon and he should certainly encourage these patients and help them realize that they can and will be able to make a livelihood with their prosthesis. In the three cases presented, the woman was affected more psychologically than the two teenage boys.

References

1. Burnham, Preston J.: Amputation of the upper extremity. Clinical Symposia, Ciba Company.
2. Compere, Clinton L.: Modern Amputation Technics. *Post Grad. Med.*, Oct., 1962.
3. Hall, Cameron B. and Bechtol, Charles O.: Modern amputation technique in the upper extremity. *J. Bone & Joint Surg.*, Vol. 45-A, No. 8, Dec., 1963.

Intracranial Aneurysms

Surgical Management With Hypothermic Anesthesia

JACK R. COOPER, M.D.,* *Shawnee Mission*

INTRACRANIAL ANEURYSMS are treacherous lesions, attributable to a congenital defect in the muscular or elastic layers of the arterial wall, and aggravated perhaps by arterial hypertension. As fragile abnormal arterial dilations, they are subject to apoplectic rupture and rerupture without warning. They may present as a blind protrusion from the arterial wall (the saccular or berry aneurysm), or they may occur as a diffuse abnormal enlargement of an arterial segment (the fusiform aneurysm).

Migraine attacks may be simulated by the most minor hemorrhages. Headache, nuchal rigidity, nausea, vomiting, and alterations of consciousness commensurate with the severity of the hemorrhage will develop with the more profound ruptures. The involvement of contiguous structures by vascular insufficiency, hemorrhage, or pressure from an enlarging vascular sac may produce localizing symptoms. The oculomotor nerve and optic chiasm serve as examples. Blood and xanthochromia in the cerebrospinal fluid are rough indices of the degree and age of the subarachnoid hemorrhage, but the diagnosis is established by cerebral angiography.

Abnormal dilations of cerebral vessels were described as early as 1761 by Morgagni of Padua. The first clinical and postmortem study of a ruptured intracranial aneurysm was presented by Biumi of Milan about 1765. The first clinical diagnosis, for which therapeutic carotid ligation was advocated, is attributed to Hutchinson (1765). While operating for a brain tumor, an aneurysm was encountered in the middle fossa by Horsley in 1902, and the common carotid artery was ligated. Impetus for clinical recognition appeared when the clinical features of five cases were reviewed by Symonds in 1923. Precision in diagnosis developed after the introduction of cerebral angiography by Monez in 1927, and percutaneous cerebral angiography by Loman and Meyerson in 1936.

In addition to the diagnosis, cerebral angiography should clearly define the surgical problem and contribute to a planned operative procedure. A complete or at least bilateral angiogram is necessary because multiple aneurysms are not uncommon. Early angiographic

assessment is desirable since a subdural hematoma may mimic a ruptured aneurysm or develop as a consequence of the rupture.

The surgical management of intracranial aneurysms has appealed a priori to some neurosurgeons, but the clinical and technical treachery of the lesion has dampened the enthusiasm of many more. In-

Intracranial aneurysms are subject to apoplectic rupture clinically and during surgery. Hypothermic anesthesia provides a safe period of cerebrovascular arrest for reparative or obliterative intracranial surgery.

creased intracranial pressure and cerebral trauma may be expected with all ruptures except the most minor. These factors increase the technical problems and surgical hazards to the extent it is difficult to justify premature surgery with existing morbidity and mortality figures. Restitution of cerebral physiology toward normal is therefore a surgical necessity and seldom achieved in less than seven days.

Hypothermia

When the body temperature is reduced to the level of 86°F, the total cerebral circulation may be safely arrested for six minutes, and in some instances, for eight to fifteen minutes. Cerebral circulatory arrest is produced by temporary occlusion of the carotid and vertebral arteries, which have been surgically exposed in the neck. Clips designed for temporary occlusion of intracranial arteries may be applied in the field of the craniotomy. Collateral circulation will then afford an additional measure of protection. Profound hypothermia with cardiac arrest has been achieved with extracorporeal pump oxygenator systems, permitting a more extended period of safe cerebrovascular arrest. Below 86°F, ventricular fibrillation becomes an increasing hazard. With this in mind the cardiovascular, renal, and hepatic status of the candidate should be carefully appraised.

Hypothermia, both moderate and profound, is currently controversial. The author's experience has been

* Presented at the annual meeting of the American College of Surgeons, Kansas Chapter, October, 1964.

confined to moderate hypothermia, and continuation would appear to be justified. Although cerebral circulatory arrest was employed for variable periods of less than 15 minutes, it was not necessary in all cases. It has been argued that an elaborate anesthetic procedure is unnecessary to cope with the occasional, serious, inadvertent rupture that may occur in the course of surgery. A significant reduction in operative blood loss has been an impressive feature with the procedure as well as the vascular control it furnishes. More important perhaps, it provides a feeling of precautionary security that contributes to a more deliberate attitude as the operation is executed. Antagonists would argue that accumulated experience is the responsible factor rather than the technique described.

Surgery

Direct and indirect surgical procedures have been applied to the management of intracranial aneurysms. Carotid ligation is assumed to indirectly avert the hazard of rerupture by reducing the arterial pressure on the wall of the aneurysm. However, total carotid occlusion cannot be tolerated by everyone, and when it is accomplished there is no assurance the pressure will be reduced to the necessary subcritical level to prevent hemorrhage. Physiologically viewed, the pulsatile cardiac output is discharged into an exponentially and peripherally expanding aorto-arterial reservoir that terminates in a peripheral resistance at the arteriolar and prearteriolar level. Therefore, the pres-

sure gradient across the aorto-arterial distribution system is extremely small until the peripheral resistance is encountered. The prime determinant, then, of arterial pressure is the peripheral resistance, and the pressure in very small arteries will not differ significantly from the pressure in the aorta. Carotid ligation, in an era dedicated to endarterectomy, would appear to offer no more than false security.

Direct surgical management is primarily obliterative or reparative. A berry aneurysm may be obliterated by a clip or ligature occluding the base or neck (*Figure 1*). The procedure is sound so long as the neck is morphologically intact; weak structures without re-enforcement would invite a recurrence. Fusiform aneurysms involve major channels of circulation that cannot be sacrificed with impunity, unless the collateral circulation is adequate.

Arteriotomy, endarterectomy, or vessel replacement have not proved applicable to intracranial vascular problems. Relatively nontoxic plastics such as methyl methacrylate, silicone rubber, and epoxy resins have been used to encase the aneurysm in a supportive matrix. The ideal plastic should be pliable, nontoxic, polymerize quickly, generate very little heat, adhere to tissues, and withstand sterilization. The polymer should be miscible in water to assure adherence to moist tissue surfaces. These properties are not easily achieved with one plastic. Silverstone applied water-miscible Geon (unpolymerized Saran wrap) to aneurysms with an air brush to provide a base for a

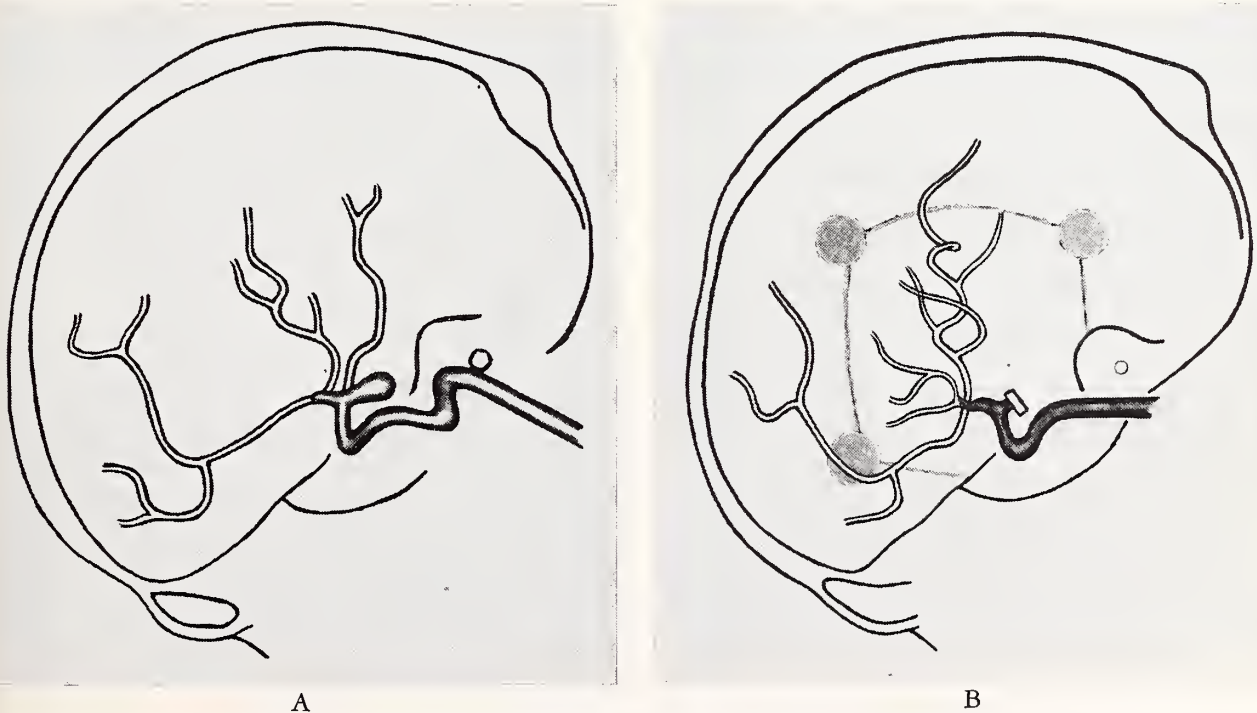


Figure 1. Berry aneurysm of the supraclinoid portion of the internal carotid artery. (A) Sketch prepared from the preoperative angiogram. (B) Sketch prepared from the postoperative angiogram. The aneurysm has been occluded with a clip applied to the neck of the aneurysm.

semipliable epoxy paste. Technical problems, such as time, depth, exposure, friability, bleeding, and inability to manipulate the lesion, impart limitations to the procedure.

Promise of a tissue glue appeared with the development of Eastman 199. Gentle pressure will initiate rapid polymerization of this adhesive, a unique and desirable property, yet surface necrosis may ultimately limit its use. Thrombosis in the lumen of the aneurysm has been promoted by electrolysis and the insertion of horse hair with an air gun. Clinical trials, however, have not yet endorsed their acceptance.

Thin, close-woven, pliable dacron cloth has proved valuable in the hands of the author to re-enforce the walls of aneurysms (*Figure 2*). It has been used to supplement an obliterative procedure and to encase aneurysms where obliteration was not considered feasible.

Results

The cases presented in Table 1 submitted to moderate hypothermic anesthesia (at 86°F). The carotid and vertebral arteries were exposed in the neck by surgical dissection, and cerebrovascular arrest was obtained by temporary occlusion of these arteries. In-

travenous urea was frequently employed to reduce the mass of the brain and enhance the exposure.

The posterior communicating artery (PCA) aneurysm was by angiography a mottled defect about the size of the usual supraclinoid aneurysm. The configuration of the abnormality suggested the presence of a small vascular malformation or a clot in the lumen of an aneurysm. At surgery the lesion proved to be a segmental dilation of the PCA which was attached to the adjacent brain tissue. When occluding clips were applied to both ends of the PCA, the lesion collapsed, indicating the presence of efferent vessels that permitted the egress of trapped blood. In contrast to her preoperative neurological state, the patient recovered quite well and returned to her position as a housewife, although a spastic ataxic gait and minor personality changes persisted.

Deep penetrating arteries that behave as end arteries have recently received attention. These small arteries normally emanate from the posterior communicating, anterior cerebral, and proximal middle cerebral arteries to supply deep and often vital structures in the brain. These arteries, it has been observed, cannot be sacrificed with the impunity their small size might imply. The aneurysm which arises from the basilar artery where it bifurcates into the posterior cerebral arteries and protrudes into the in-

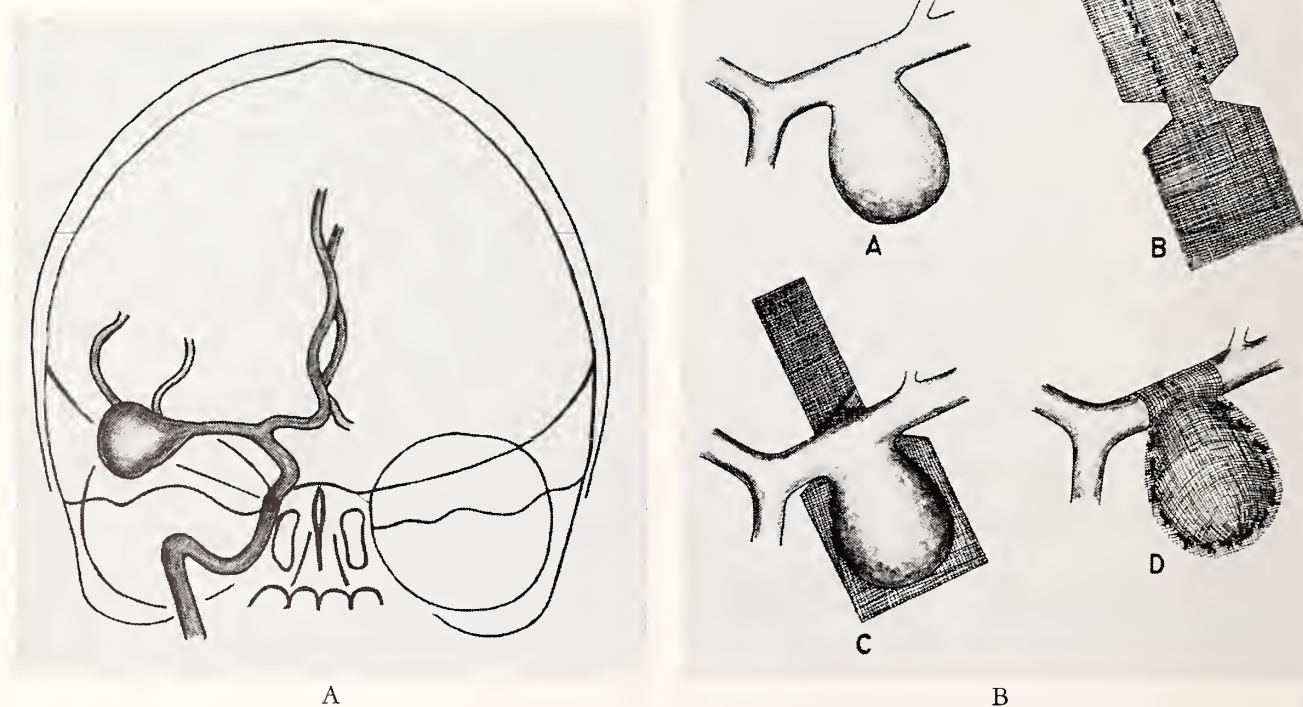


Figure 2. A large broad based aneurysm arising from the trifurcation of the middle cerebral artery requiring reparative surgery. (A) Sketch prepared from the preoperative angiogram. (B) Sketch depicting the step-wise encasement of the aneurysm in a supportive matrix of dacron cloth.

TABLE 1

<i>Location</i>	<i>Cases</i>	<i>Complications</i>	<i>Deaths</i>
Posterior communicating artery ..	1	0	0
Anterior cerebral and communicating artery complex	4	1 auricular fibrillation and thrombophlebitis in the same case	1 uremia
Middle cerebral artery	2	1 asphasia due to rerupture of aneurysm; rehabilitated	0
Supraclinoid carotid artery	3	0	1 rerupture of aneurysm
TOTAL	10	2	2

terpeduncular cistern is believed to contribute deep penetrating arteries to the mid-brain, and therefore is inoperable.

Clinical evidence of cardiac disease was found in two cases. Both presented a history of good work tolerance, which influenced the decision for surgery. Auricular fibrillation intractable to medical cardioversion developed during the craniotomy in a case of mitral stenosis. The same patient developed a thrombophlebitis in the late postoperative period, for which anticoagulants were administered. No neurological residuals were incurred as a consequence of the surgical management in either case.

A middle cerebral aneurysm encased in dacron mesh reruptured 21 days after the repair, producing a motor aphasia. Rehabilitation was slowly accomplished with the aid of speech therapy and permitted this patient to return to his previous occupation. There has been no evidence of additional hemorrhage in a two year follow-up period.

None of the deaths were related to the hypothermia or cerebrovascular arrest. Uremia developed in the immediate postoperative period following the ligation of an aneurysm that compressed the optic chiasm and arose from the anterior cerebral artery at the level of the anterior communicating artery. A silent pyelonephritis was found at autopsy. A broad based supraclinoid carotid artery aneurysm reruptured in the late postoperative period to produce the second death. An autopsy revealed the neck of the aneurysm was not completely occluded by the clip. In this case an esophageal diverticulum was present in the neck, and it was simultaneously repaired. The diverticulum was responsible for a postoperative neck infection that prohibited the customary postoperative angiographic assay.

Discussion

What does surgery accomplish for the verified intracranial aneurysm? A priori, it is sensible to patch or repair faulty anatomy so long as the treatment improves the morbidity and mortality inherent in the

natural history or course of the disease. Unfortunately the natural history cannot be assessed with the accuracy necessary for an infallible judgment. A sizable segment is doomed to death by the initial hemorrhage. Some will stabilize and improve sufficiently to warrant surgical intervention. Delay beyond the period of suitable improvement, arbitrarily set at one week, invites an increasing incidence of fatal recurrent hemorrhages. In the author's experience, an impressive number failed to survive the initial hemorrhage. Others weighed the magnitude of the procedure, declined surgical treatment, and succumbed later to the disease.

Half of the reported cases submitted to surgery in the interval from March 2, 1956, through May 21, 1957. The four survivors are alive, well and functioning suitably in society. The remainder submitted to surgery in the interval from March, 1957, through May 15, 1965. There were four survivors who are likewise alive, well, and stable. Late recurrent hemorrhages have not been encountered.

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Pancreatic Tumors

The Fate of Patients With Carcinoma of the Pancreas

ALFRED HEILBRUNN, M.D. and
JACK M. ZIMMERMAN, M.D., *Kansas City, Kansas**

MUCH OF THE CURRENT surgical literature dealing with carcinoma of the pancreas focuses on the problem of resection in lesions of the pancreatoduodenal area; indications, techniques and results.^{1, 4} However, resectability rates are very low, and long term results generally poor for adenocarcinoma of the pancreas.^{2, 4} Emphasis has generally been placed on carcinomas arising in the common duct, duodenum or ampulla of Vater as more favorable lesions for resection.^{3, 5} What, then, of the patients with adenocarcinoma of the head, body and tail of the pancreas?

Material and Results

The experience of the Kansas City Veterans Administration Hospital with adenocarcinoma of the pancreas between 1952 and 1964 has been reviewed and forms the basis of this report.

In the 48 cases studied, the histologic diagnosis was established as shown in Table 1. In five patients the diagnosis was made at autopsy, no operative procedure or biopsy was attempted. In four other patients, diagnosis was established on two occasions by cervical lymph node biopsy and in two others by needle biopsy of liver metastases. Three of these four were later confirmed by autopsy examination. Laparotomy was performed in the other 39 patients. In one of these no biopsy was taken and in two others the biopsy was negative for tumor, but autopsy confirmation was obtained in all three patients. In the remaining 36 patients, histologic diagnosis was proven from a specimen obtained at laparotomy. In four, this came from resection of the primary lesion. In seven additional patients, needle or incisional biopsy of the primary lesion provided tissue for diagnosis. In 25 patients diagnosis was made from biopsy of a metastasis, usually the liver.

As might be expected from a Veterans Hospital, all patients except one were male. The age ranged from 27 to 88 with most in the seventh and eighth decades (*Figure 1*). Thirty-nine patients were white

Adenocarcinoma of the pancreas carries a very poor prognosis. Pancreatoduodenectomy is infrequently possible, but provides the only hope of prolonged survival. Biliary and gastric decompression provide palliation from jaundice and vomiting but do not appear to prolong survival.

and nine were Negro. In 31 records, a definite statement regarding weight loss was made. It ranged from 8 to 60 pounds with an average of 29.5 ± 14 pounds. Twenty-three patients had the primary lesion located in the head of the pancreas and in 25, it was located in the body or tail. Only five patients in each of these two groups did not include pain as a part of the chief complaint on admission. Only two patients, both with primary lesions in the body and tail, presented with complaints of gastric outlet obstruction.

Twenty-one of the 23 patients with carcinoma of the head of the pancreas had jaundice. Twenty-two of them underwent laparotomy. The only patient with carcinoma of the head of the pancreas who did not undergo operation had liver metastasis demonstrated by needle biopsy, was not jaundiced and at autopsy was shown to have a primary in the lateral margin of the head of the pancreas. The only other

TABLE 1
DIAGNOSIS

Autopsy only	5
Cervical lymph node biopsy	2
Liver needle biopsy	2
Diagnosis at laparotomy	
By resection of primary	4
Biopsy of primary	7
Biopsy of metastases	25
False negative biopsy	2
(autopsy confirmation)	
No biopsy (autopsy confirmation)	1
Total	48

* Read at the annual meeting of the American College of Surgery, Kansas Chapter, October, 1964.

From the Department of Surgery, Veterans Administration Hospital, Kansas City, Missouri, and the University of Kansas School of Medicine, Kansas City, Kansas. Dr. Heilbrunn is Assistant Professor of Surgery and Dr. Zimmerman an Associate Professor of Surgery.

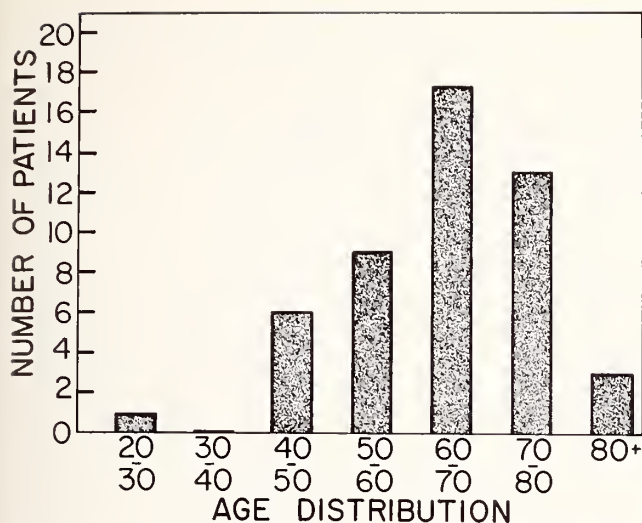


Figure 1. Age distribution by decades in 48 patients with carcinoma of the pancreas.

patient without jaundice was thought to have a tumor of the body of the pancreas, but autopsy indicated that this probably arose within the anatomical confines of the head of the organ.

A variety of surgical procedures were carried out in the other 21 patients (Table 2). Pancreatoduodenectomy with the intent of cure was carried out four times. One patient died from massive hepatic artery hemorrhage secondary to pancreatic fistula, three weeks postoperative. There was no demonstrable tumor at autopsy. Two others survived five and a half and fourteen and a half months respectively before dying of recurrent tumor. The other patient is alive and well 66 months postoperatively.

This was a 67-year-old white male who presented in January, 1959, with complaints of epigastric pain, anorexia, jaundice and a ten pound weight loss. At operation, a two centimeter mass was felt in the head of the pancreas with no evidence of metastases. Pancreatoduodenectomy was done. His course was complicated by a bleeding gastric ulcer requiring reoperation three weeks after the initial procedure. After this second operation, he developed a wound infection and staphylococcal parotitis but eventually recovered and has been well since. His weight is stable, he has no gastrointestinal symptoms and requires no medication.

Sixteen patients had some form of biliary decompression. One had only a cholecystostomy because of operative hypotension. There were also two choledochojunostomies, two choledochoduodenostomies, three cholecystoduodenostomies and eight cholecystojejunostomies. In four of these patients, gastrojejunostomy was also performed at the same time. Three other patients required gastrojejunostomy as a second procedure.

With the exception of the one long term survivor following resection, the results were poor (Figure 2). However, of the 21 patients who were jaundiced pre-operatively, all but three had relief of jaundice or at least declining bilirubin levels if they expired in the early postoperative period. Two of these three patients expired before any change was noted and the third had extensive tumor in the porta hepatis preventing any decompression maneuver. Three patients again developed jaundice or rising bilirubin levels prior to death. Of the 11 patients having an initial biliary bypass, three subsequently developed gastric outlet obstruction and had gastrojejunostomy at the second procedure. All three expired two weeks after the second procedure. The average survival after palliative bypass was only 3.4 months, and no patient survived beyond eight months.

In reviewing the 25 cases of carcinoma of the body of the pancreas, the data were particularly grim (Figure 2). Laparotomy for diagnosis or possible palliation was done in only seventeen. Three had gastrojejunostomy, one a biliary bypass and nothing could be done in the remaining thirteen. All eight unoperated patients were dead within one month of hospital admission, and eight of the seventeen submitted to operation were also dead within one month of operation. The average survival following operation was only two and a fourth months and only one patient survived over six months, to die at one year.

This latter patient had initially been explored as an emergency and found to have a gangrenous loop of jejunum which was resected. At this time the pancreas was described as indurated but not enlarged. The gangrene was thought to be secondary to venous thrombosis. Four months later the patient noted the onset of abdominal pain and weight loss. Nine months after the first operation he developed thrombophlebitis of both legs. He was re-explored one year after the initial procedure and noted to have ab-

TABLE 2

SURGICAL TREATMENT OF CARCINOMA OF THE HEAD OF THE PANCREAS

Pancreatoduodenectomy	4
Cholecystostomy	1
Choledochojunostomy	2
Choledochoduodenostomy	2
Cholecystoduodenostomy	3
Cholecystojejunostomy	8
Concomitant gastrojejunostomy*	(4)
Gastrojejunostomy	1
Laparotomy and Biopsy	1

* In combination with biliary bypass.

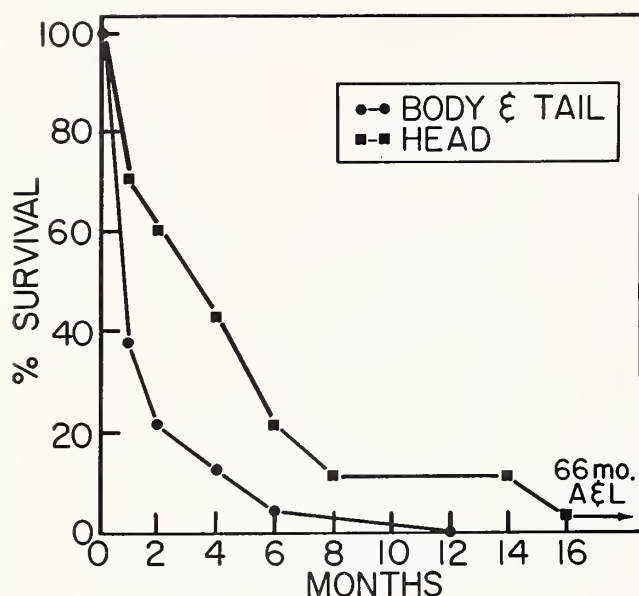


Figure 2. Over-all survival curves of patients with carcinoma of the pancreas.

dominal carcinomatosis with the pancreas now containing a large fixed mass. He expired in the early postoperative period.

Six patients with carcinoma of the body of the pancreas developed jaundice as part of the terminal course. Six other patients developed significant gastrointestinal bleeding secondary to tumor erosion of adjacent bowel or stomach.

In reviewing the entire series of 48 patients only three had evidence of clinical thrombophlebitis. Six additional patients had autopsy evidence of venous disease including four with pulmonary thromboemboli and three with thrombosis of the portal vein and its major tributaries.

Discussion

There are only a few conclusions which can be drawn from this small series. Carcinoma of the pancreas appears to be a disease primarily of the older age group but does occur in younger individuals. It is uncommon to see it present as painless jaundice. Most patients have severe weight loss. As seen at our hospital, most patients had far-advanced disease when first seen. In the four patients who had resectable lesions, one survived over five years, and two had longer than average palliation.

Gastric obstruction developed late in the course of three patients with carcinoma of the head of the

pancreas after biliary decompression had initially provided relief of jaundice. Gastrojejunostomy as a secondary procedure provided no palliation. This would suggest that it might be wise to perform gastroenterostomy at the time of initial operation, if gastric obstruction appears at all likely, and avoid a second operation.

Since nearly all the jaundiced patients did have improvement from this standpoint, it would appear justified to continue with biliary decompressive operations. The specific method used did not appear to make any difference in this small series, suggesting that the simplest, easiest form of bypass applicable in a particular case should be used. Early operation, with resection, appears to offer the only hope of long term survival and effective palliation. The diagnosis of carcinoma of the body of the pancreas carries a very grim prognosis.

References

1. Buckwalter, J. A.; Lawton, R. L.; and Tidrick, R. T.: Pancreatoduodenectomy. *Arch. Surg.*, 89:331, 1964.
2. Glenn, F., and Thorbjarnarson, B.: Carcinoma of the pancreas. *Ann. Surg.*, 155:945, 1964.
3. Fish, J. C., and Cleveland, B. R.: Pancreatoduodenectomy for periampullary carcinoma; Analysis of 38 cases. *Amer. Surg.*, 159:469, 1964.
4. Porter, M. R.: Carcinoma of the pancreatoduodenal area. *Ann. Surg.*, 148:711, 1958.
5. Warren, V. W.; Cattell, R. B.; Blackburn, J. P.; and Nora, P. E.: A long term appraisal of pancreatoduodenal resection for periampullary carcinoma. *Ann. Surg.*, 155:653, 1962.

MOST OBESE CHILDREN remain obese as adults. Many persons brush aside the problem of obesity in children and adolescents because they think that the child will lose weight as he grows older. Recent data indicate that, in general, obese boys and girls will become obese adults, "and that a major reservoir of obesity in adult life is obesity in children," according to Dr. Louis H. Nahum. Incidence is higher in girls than in boys, a conservative estimate being 10 per cent of boys and 15 to 20 per cent of girls.—*Connecticut Med.*, February, p. 106.

RECENT SCARS WILL HYPERPIGMENT and cause permanent tanning when exposed to sunlight, reports Dr. Lester M. Cramer of Rochester, N. Y. Usually a scar is susceptible to this danger for about six months. After this waiting period, tanning seems to help obscure scars.—*JAMA*, April 12, p. 178.

Student Health

The Importance of a College Health Physical Examination

WILLIAM NICE, M.D., Topeka

THE ENROLLMENT of 75,000 students this fall in the 47 colleges in Kansas will show an increase of approximately 25,000 compared to five years ago. About 25,000 of these students will require a physical examination upon entrance. This, taken with the load of one half million students at the pre-college level in Kansas, many of whom require physical examinations for sports, enrollment in school, scout camps, church camps, etc., will put a burden on the doctor in private practice.

The Objectives

The objectives of the physical examination may be summarized as follows:

1. The health examination should be a health education experience for the student.
2. There should be a positive health appraisal (this refers to findings denoting good health or presence of disease).
3. Defects or problems should be detected: physical, emotional, and even social problems are recorded, usually can be discussed with the student and then sent to the university health service.
4. The problems of adjustment to the college environment and to the physical education program should be explained to the student.
5. Health evaluations may be made regarding qualifications for ROTC, scholarship programs, teachers' certification programs and allied endeavors.
6. The health record provides background information to justify withdrawals from school for health reasons (physical or emotional).
7. Observations made from the health examination may be of dynamic significance in aiding the administrative staff to make predictions of scholastic performance, to anticipate the possibility of short or long periods of absence from school, and to analyze behavior problems. Any short cut may miss a pertinent health problem.

Over 90 per cent of the colleges which have a student health facility now require a physical examination. At least 50 per cent of these now require this before enrollment. Many universities in the past have used the "assembly line" type of physical examination with some favorable results, feeling that the objectivity of the examination done at the university might provide a better diagnosis. However,

many universities have discontinued the assembly line examination because they feel that some 20 per cent of the minor defects and 10 per cent of the major defects are missed. One university reported 60 per cent of the known defects were missed.

The physical examination before going to college and the transition from the family doctor to the college health physician should be beneficial in aiding the college student to gain his best potential while getting an education.

Most universities feel that the family physician is usually better prepared to give an accurate opinion of the student's physical and mental condition if he reviews the medical history and completes the physical examination. The physical examination blank of most universities now includes:

PART I. Medical History: This should be completed by the student before reporting to the family doctor's office. This history should include all pertinent information concerning past illnesses, operations, allergies, special diets, and any special diseases or disabilities which may require treatment during the student's stay at the university, plus a complete immunization record.

PART II. The Physical Examination: The family doctor, after a careful review of the medical history, can then complete the physical examination.

Students going to college can be compared to students taking an airplane flight: some students know their destination, some do not; some are prepared for the flight, some are not; some take short trips, some take long trips; some change airplanes several times during the flight; some do not finish the complete trip, leaving the plane during the flight due to physical or emotional problems, or occasionally due to financial problems. This can be very traumatic. The university health service has an even greater responsibility to this last group.

The Goals

Within the scope of any college or university health program are provisions for the following goals:

1. Maintenance of a state of optimum health, both physical and emotional, among the student body and staff.

2. Opportunities for each student to develop proper attitudes, consistent with living in our society as it is today.

3. Help toward instilling good habits of personal and community health.

4. Enabling the student to obtain optimum benefit from his college career.

An adequate health program assures a healthful and safe physical and emotional climate, including health education and health care. It discovers physical and emotional problems in their early stages when they may be correctable. It prevents loss of time and promotes the pursuit of academic work by maintenance of health through the prevention and treatment of illness. It provides opportunity for research relating to basic health problems of the student and his environment. A good college health program should be broad in scope, encompassing preventive medicine and psychiatry, health education, medical care, mental health care and supervision of the environment. The program becomes an integral part of the education experience of college students, demonstrating the importance and value of health as a personal and community asset.

Approximately 50 per cent of the students at any one college will require treatment for physical or emotional problems during the school year. The university health service must depend upon the medical health record and examination sent to the university concerning the student. It is obvious that a good medical record does not in itself constitute good

medical care; however, good medical care is more probable with good medical records. In many cases physical or emotional illness affects the student's achievements in college.

For effective coordination of the efforts of all concerned, the family doctor should make appropriate recommendations to the student health physician, after consultation with the student and the family. In instances in which the family physician is reluctant to include certain data on the student's health record, it is very easy to attach a note to the examination form before the doctor mails it, or to write a separate letter, or to call by telephone. The medical records at the student center, as in the doctor's office, are confidential. If correction of visual, auditory or orthopedic handicaps is necessary, the student should be informed of this and the university health service should be notified that this correction was recommended by the family physician. Special attention should be directed to foreign students, and especially to handicapped students who may require special classes or special parking privileges.

As the late Dr. Homer Hiebert, a Topeka physician, frequently said, "The young people of Kansas constitute our most valuable natural resource."

References

1. American College Health Association: Ethical and professional relationships—A supplement to recommended standards and practices for a college health program, Reprinted 1964.
2. American College Health Association: Recommended standards and practices for a college health program, Reprinted 1964.
3. Nemir, Alma, and Cline, Victor B.: New perspectives on student health examinations, *J. Am. Coll. Health Assoc.*, 12:180-186 (Dec.) 1963.

THE PLIGHT OF THE FETUS

There are certain drugs which are very hazardous to the fetus. There are others which, experiments indicate, may be dangerous. Then there are those drugs which are circumstantially suspected of being hazardous. This leaves few drugs available for use. Medication cannot stop altogether while physicians wait for the future to provide the answers. As current guide lines, when the parturient needs treatment, drugs must be judged not on the impossible basis of absolute safety, but on a basis of no known added risk. With such a standard, the physician can continue to prescribe for his patients.—Editorial in *Massachusetts Physician*, 23:7, (Mar.) 1965.



Chemodectoma

Edited by **PAUL S. QUINN, M.D., Kansas City, Kansas**

Dr. Stanley Friesen (Moderator): The patient for discussion today has a tumor which ordinarily produces a syndrome of symptoms and signs which are quite specific for the tumor but the symptoms and signs are systemic. Dr. Ashcraft, will you present the clinical history?

Dr. Keith Ashcraft (Resident in Surgery): The patient is a 22-year-old University of Kansas exchange student from South America. She presented at the student health center at K.U. in mid-December, 1964, relating a history of having had a mass in the neck since April, 1964. She complained of some weakness and occasional dizziness with no other symptoms. She was referred to University of Kansas Medical Center. Physical examination revealed a 2 x 2 cm. firm, round mass in the upper left neck anterior to the sterno-cleido-mastoid muscle. It was initially felt that she had a branchial cleft cyst and was admitted to the plastic surgery service in late January, 1965, for treatment. On that admission she stated that the mass had enlarged from time to time and seemed to occasionally be inflamed as indicated by heat and tenderness over the area. The mass and inflammation would then seem to go away. This event would be accompanied by a bad taste in her mouth. This history was thought to be typical of branchial cleft cyst which communicated with the oropharynx. The laboratory examination revealed no remarkable findings.

Dr. Frank Mantz (Pathologist): Was the mass movable?

Dr. Ashcraft: It was firm and not fixed to the skin but seemed to be fixed deep within the tissues. It could be moved slightly.

Dr. Mantz: Was it movable up and down or transversely?

Dr. Ashcraft: The movement was in a transverse direction.

Dr. Friesen: Were the spells of dizziness and weakness corrected by the ingestion of orange juice?

Dr. Ashcraft: I obtained no history to this effect; however, the intern who saw her in the medical clinic did obtain this information.

Dr. Friesen: Did you think that the mass changed in size or shape?

Dr. Ashcraft: Yes. From the history that she related, I thought so.

Dr. Friesen: Was there anything in the history to indicate that these dizzy spells came on in the morning during the fasting state?

Dr. Ashcraft: No.

Dr. Friesen: The weakness and dizzy spells could not be related to meals, fasting states or glucose levels, according to the history. Did she ever faint or have syncope?

Dr. Ashcraft: She did in mid-December. That was the reason for the initial visit to the student health center.

Medical Student: Could you palpate the carotid artery?

Dr. Ashcraft: Yes, the carotid artery could be palpated and the mass appeared to be immediately anterior to the carotid artery and anterior to the sterno-cleido-mastoid muscle. The mass did not pulsate and there were no bruits audible.

Dr. Friesen: Was the mass tender?

Dr. Ashcraft: At the time of her admission in January, the mass was not tender.

Dr. Friesen: Did the patient have a tremor or exophthalmia and did the mass move with swallowing?

Dr. Ashcraft: The mass did not move with swallowing and I know of no tremor being recorded. Exophthalmia was not present. When the patient was first seen in the medicine clinic, it was thought the swelling was possibly due to obstruction of a salivary gland duct by a calculus, and x-rays obtained showed no evidence of such obstruction.

Dr. Friesen: Branchial cleft cysts usually are anterior to the sterno-cleido-mastoid muscle, aren't they?

Dr. Ashcraft: Yes, they are anterior to it.

Dr. Friesen: They may be hot and tender and may communicate with the pharynx. Were carotid angiograms obtained?

Dr. Ashcraft: These were not obtained. Chest x-rays were reported as normal.

Dr. Friesen: What was her blood pressure?

Dr. Ashcraft: The blood pressure was 110/65 mm. of mercury, the pulse was 84 and regular.

Dr. Friesen: Did the plastic surgeons then operate with a preoperative diagnosis of branchial cleft cyst?

Dr. Ashcraft: Yes. She was explored late in January and it was found that the mass was not a branchial cleft cyst, the incision was closed and she was scheduled for definitive surgery at a later date.

Dr. Friesen: Dr. Hardin, we know this is not a branchial cleft cyst, what else can it be?

Dr. Creighton Hardin (Surgeon): Since this patient was a 22-year-old exchange student from South America, the question of a language barrier existed. If we were sure of the history of the presence of a mass in this location, which got smaller and larger and was accompanied by a foul taste in the mouth, in a young person, the diagnosis of branchial cleft cyst would be a good one. We do have some additional history on this patient. She was in Colorado and the mass was not inflamed or extremely enlarged when she consulted a physician who felt the hard nodule and wanted to biopsy it in his office. That would have certainly been a frightful experience in view of the type of tumor actually found. The tumor was just below the angle of the jaw and obstruction by a calculus in a salivary gland duct would have to be excluded as a diagnostic possibility. This can be easily differentiated by bimanual examination through the mouth.

Dr. Friesen: Did anything happen when you massaged this tumor?

Dr. Hardin: No. This is another procedure which should always be carried out. The blood pressure should be taken before, during and after massage of the tumor. Also, electrocardiographic tracings

should be taken while the tumor is massaged to see if there are changes in the cardiac rate. Infections of the ear, mouth or jaw should be ruled out. Chronic infection with lymphatic drainage of the area could account for lymph node enlargement and this should be considered in the differential diagnosis. Also, in the differential diagnosis if other lymphadenopathies were present, it would be necessary to consider lymphoma. This tumor mass was much too high to be considered in the region of the thyroid gland.

Dr. Friesen: Couldn't this be a metastasis from a papillary carcinoma of the thyroid gland?

Dr. Hardin: I think this would be very unusual for a tumor to metastasize superiorly and unilaterally with a normal, unpalpable thyroid and with no other lymph nodes present in the lower cervical area.

Dr. Friesen: Was blood pressure obtained before and after massage of the tumor?

Dr. Hardin: This was carried out during the removal of the tumor and there was no change in the blood pressure. The history of dizziness and light-headedness appears to be unreliable because this is not a function usually associated with the type of lesion found.

Dr. Friesen: What did this mass look like at the time of surgery?

Dr. Hardin: I was called to see this patient at the time of the initial surgery and although the incision was limited, a bloody tumor was visualized and it was fairly obvious what it was.

Dr. Friesen: A bloody tumor in this region could be an aneurysm, metastatic renal cell carcinoma, glomus tumor, hemangioma, or a carotid body tumor.

Dr. Hardin: did you recognize this as a chemodectoma?

Dr. Hardin: Yes.

Dr. Friesen: It must have a specific appearance then.

Dr. Hardin: The location of the tumor clinched the diagnosis. The tumor was located between the external and internal carotid arteries and presented primarily anteriorly. The tumor was very bloody.

Dr. Friesen: Did you remove the tumor?

Dr. Hardin: Not at that time. The reason for delay was that permission had not been obtained for this procedure and the incision was not appropriate.

Dr. Friesen: How did you approach this tumor at the second operation, Dr. Hardin?

Dr. Hardin: Knowing what this tumor was, the primary concern, of course, was to preserve the internal carotid artery. In preparation for the possibility of having to occlude the internal carotid artery, a facility for hypothermia must be made available and adequate blood for transfusion must be obtained. The actual removal of the tumor in this case was facilitated by ligating the external carotid artery and

rolling the tumor and the internal carotid artery into the field. Usually this is sufficient preparation to dissect the tumor with the adventitia from the common carotid and internal carotid artery. The surgeon must accept a fair amount of blood loss and the operation is usually done with a sucker running and with sharp dissection. In this operation we lost about four units of blood but didn't have to graft the artery.

We have had seven of these tumors in this hospital. The largest measured 10.0 x 5.0 cm. and grew up behind the mandible into the pharynx and to the base of the calvarium. That tumor was so large that we couldn't graft the artery so we placed a clamp on the carotid artery, closed the incision and with the patient awake, gradually occluded the internal carotid artery. The patient had no neurological sequelae to this procedure. We then re-entered the neck, transected the common carotid artery and the mandible and removed the tumor. We had to ligate the internal carotid artery flush with the base of the calvarium. A resection of this magnitude is formidable and the surgeon should be prepared for all eventualities. The large size of some of these tumors can create extreme technical problems.

Dr. Friesen: What did this tumor look like and how do you recognize it? Was the tumor gray, red, solid or cystic?

Dr. Hardin: If you happen to incise this tumor at the operation, it is extremely vascular and very bloody. Around the periphery of the tumor there may be extreme venous engorgement.

Dr. Friesen: Is there any communication with the jugular vein?

Dr. Hardin: No.

Dr. Friesen: Is there any communication with the lumen of the carotid vessels?

Dr. Hardin: Usually not.

Dr. Friesen: Dr. Mantz, can you tell us more about this tumor.

Dr. Mantz: I think it is very remarkable that we have a gross photograph of this lesion in its entirety. The only other specimens I have had the opportunity of examining were multiple fragments of tumor along with a large volume of clotted blood, since the lesions required removal by a morsellizing procedure. I have never known personally of a patient dying from this operative procedure but it is said that the operative mortality is as high as 30 per cent. Mortality is largely due to massive hemorrhage and secondary effects from interruption of the carotid circulation.

The specimen which we received was an ovoid tumor which measured 4.0 x 4.0 x 3.0 cm. (*Figure 1*). It presented a relatively smooth encapsulated surface and was faintly lobular externally. The cut sur-



Figure 1. Gross photograph of carotid body tumor showing external and cut surface with attached segment of soft tissue.

faces appeared to be relatively fleshy, accounting for the firmness noted clinically. The colors were variegated from homogeneous tan to brown with areas which were dark red and obviously hemorrhagic. A segment of soft tissue was attached to one margin and appeared to represent portions of overlying connective tissue although the possibility that this was in some way related to the carotid artery is suggested by a finding which I will show you in a moment.

The histological appearance of the major portion of the lesion is typical and it can be seen that the neoplasm is indeed encapsulated with loose fibroadipose tissue adherent to the capsule. The lesion is highly cellular but is traversed by irregular trabeculae which produce a somewhat incomplete or pseudolobular appearance. There is an exceedingly high degree of vascularity manifest by the lacy appearance due to numerous, widely dilated vascular lakes in between which one sees large numbers of cells. At higher power (*Figure 2*) one notes in between the organoid clustering of cells, a rich, fine capillary network. On close inspection one can see that although the tumor is richly vascular, it is not like a hemangioma, in that the blood vessel cells themselves do not participate in producing the neoplasm. Distinct and normal appearing endothelial cells are present, and outside these cells one observes the tumor elements. The tumor cells (*Figure 2*) are rather large, poorly defined and vary from fusiform or spindly in appearance to rectangular or polygonal in shape. Characteristic of this tumor is the aggregation of the cells into distinct and round alveolar clusters forming the so-called "cell balls."

The adjacent tissue adherent to the external surfaces of the tumor was fibrous and showed a rich degree of vascularity suggesting that it carried communicating vessels, possibly extending into the carotid itself. Another striking feature was the presence of large numbers of nerves in this tissue and

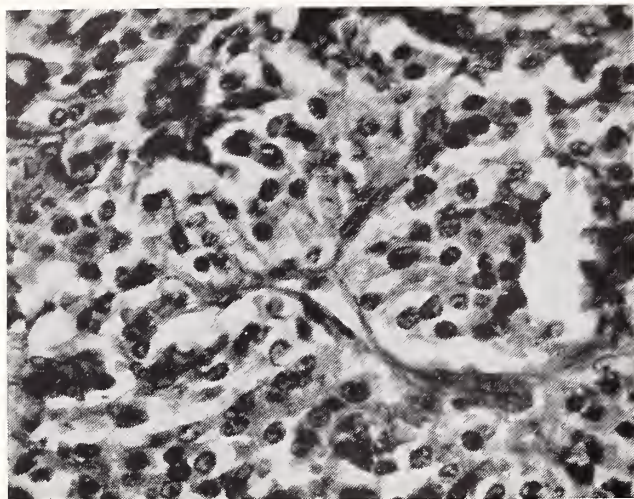


Figure 2. (440 \times) Carotid body tumor showing organoid clustering of cells with interposed rich, vascular network.

it is important to appreciate this factor when one considers the nature of the primary neoplasm.

The carotid body tumor is one of a group of lesions which may involve the carotid body itself, the aortic body, the ganglion nodosa of the vagus nerve and the so-called glomus jugulare. These are all lesions which have in common, the function of being chemoreceptors. The carotid body is sensitive to the level of carbon dioxide in the blood. When the level of carbon dioxide becomes elevated, the carotid body is stimulated and by reflex mechanisms mediated through the glossopharyngeal nerve, results in deepening and increasing the rate of respiration. It is often wrongly suggested that the carotid body has a baroreceptor or pressure detecting mechanism. The reason for this mistake, however, is the fact that a growing neoplasm of the carotid body may compress the carotid sinus which is immediately adjacent to it and may thereby stimulate this structure and thus produce syncope. I would wonder if this were not possible in this case, in view of the history.

The cells of which this tumor is composed are thought to be of neuroepidermal origin and because of their clustering are classified as paraganglion cells. They are similar in many respects to the paraganglia which are distributed throughout the sympathetic nervous system but differ in two striking ways. First of all, these tumor cells have no affinity for the chromaffin salts, a characteristic of sympathetic structures such as the adrenal medulla. Secondly, they have little to do with mediating control of the blood pressure.

This tumor has been subjected to considerable study in recent years in Mexico City by Costero and Barroso-Moguel.¹ They maintain that this is not a neoplasm but morphologically represents hyperplasia of the carotid body. Contrary to this, others have

described metastasis from these tumors to local lymph nodes and in one case tumor tissue was thought to have been demonstrated in the liver. The reason for considering this as hyperplasia is the absolutely perfect reproduction of the normal carotid body by the tumor cells. Furthermore, careful histochemical study by the use of ammoniacal silver has shown that many of the cells of this tumor contain granules that are silver positive and react in a manner similar to cells that are capable of forming norepinephrine and also capable of forming serotonin. It is not known whether either norepinephrine or serotonin is present in this tumor although recently some evidence that norepinephrine is contained within the tumor has been presented. It apparently is present in very small amounts and it is assumed that if either of these agents is present they are only serving as chemical mediators in synaptic processes that occur within the organ.

The major tumor cell is known to have a single process which has been traced by tenuous routes to insert itself in the wall of the carotid artery.¹ These cells are surrounded by more fusiform cell elements and also by a basket of nerve endings apparently derived from the glossopharyngeal nerve. Presumably then, this is just a large synaptic structure, the chief cells, or those that form the major portion of the cell balls, being the initial receptor organ which initiates stimuli that are passed on by the glossopharyngeal nerve.

Dr. Friesen: The glossopharyngeal nerve is a sensory nerve and I was wondering if patients with this tumor have abnormal sensations of taste.

Dr. Mantz: No, they do not; however, with ablation of the carotid body it has been shown that atrophy and demyelination of the glossopharyngeal nerve occurs.

Dr. Friesen: Have these tumors been determined to contain norepinephrine by bioassay?

Dr. Mantz: Noradrenaline has been quantified in a carotid body tumor only once.²

Dr. Hardin: I was interested in Dr. Mantz's comments regarding the vascular channels in the tissues around the tumor because during the resection of the tumor we had to ligate large blood vessels which appeared to enter the wall of the carotid artery.

Dr. Mantz: That is very satisfying to me, because it certainly did appear as if there were multiple vascular channels which might have been communicating with the artery.

Dr. Friesen: This certainly seems reasonable because no other blood vessel has been shown to communicate with the external carotid artery in this region.

Why can't this tumor be left in the neck, Dr. Hardin?

Dr. Hardin: The continuous expansion from growth of this tumor may obstruct the carotid artery and compress nerves in this region, including the 10th, 11th and 12th cranial nerves. The expansion of this tumor may eventually involve many vital structures in the area.

Dr. J. O. Boley (Pathologist): What is the chance of the opposite carotid body being involved?

Dr. Mantz: Bilateral tumors have been described, but this is very rare.

Dr. Boley: If this were hyperplasia, it would seem

that when one tumor is removed the stimulus that created it might also stimulate the opposite carotid body to become hyperplastic. Has this ever been described?

Dr. Mantz: Not to my knowledge.

References

1. Costero, I. and Barroso-Moguel, R.: Structure of the carotid body tumor. *Amer. J. Path.*, 38:127-141, 1961.
2. Costero, I.: Recent advances in the knowledge concerning chemodectomas. *Lab. Invest.*, 12:270-284, 1963.

AAMA PLANS EDUCATIONAL SEMINAR

Doctor, would you like *your* medical assistant to know more about:

—Using available communications equipment?

—Work simplification?

—The mechanics of and reasons for following patients throughout their health needs?

—Working with a medical management consultant to obtain the best results for you?

Then send her to the annual meeting of the American Association of Medical Assistants, October 13-17 in New York. All these topics, plus other phases of office management, will be discussed during the two-day educational seminar planned for the meeting at the Roosevelt Hotel.

In addition to the symposium on office management, your assistant will also hear talks on: "The Patient—The Office VIP"; medical quackery, and "Medical Who-dun-its." The latter will be presented by Milton Helpert, M.D., chief medical examiner, New York City.

The House of Delegates, AAMA's policy-making body, will convene Wednesday, October 13, and continue through Thursday, October 14. Friday and Saturday are devoted to the educational programs, with association workshops highlighting the Saturday proceedings. Featured workshop topics will be: Parliamentary procedure; certification; membership; leadership; public relations and treasurers.

Prior to the formal opening of the meeting, special tours and events have been arranged for the medical assistants. Monday, October 11 is "Medical Assistants Day at the World's Fair," with a VIP tour of the GE "Futurama," a visit to the Atomedic Hospital, and brunch at the Top of the Fair. Special admission to other exhibits has been arranged.

During a visit to the United Nations on Tuesday, October 12, AAMA delegates will hear a special message from a member of the World Health Organization. A tour of Rockefeller Center, featuring a Fiesta Brunch at La Fonda del Sol, highlights Wednesday morning.

On Friday, October 15, AMA President James Z. Appel, M.D., Lancaster, Pennsylvania, will be the guest speaker at a luncheon honoring AAMA past presidents. The Awards luncheon Saturday will honor those medical assistants who have become certified, as well as state chapters which have been judged outstanding in the areas of membership and publications. Scholarship fund certificates will also be presented.

Climaxing the week's events will be the Saturday banquet honoring state chapter presidents. At that time, AAMA President, Mrs. Rose Merritt, Savannah, Georgia, will present the outstanding merit and honorary membership awards, and Miss Marge Slaymaker, Newton, Kansas, will be installed as 1965-66 president.

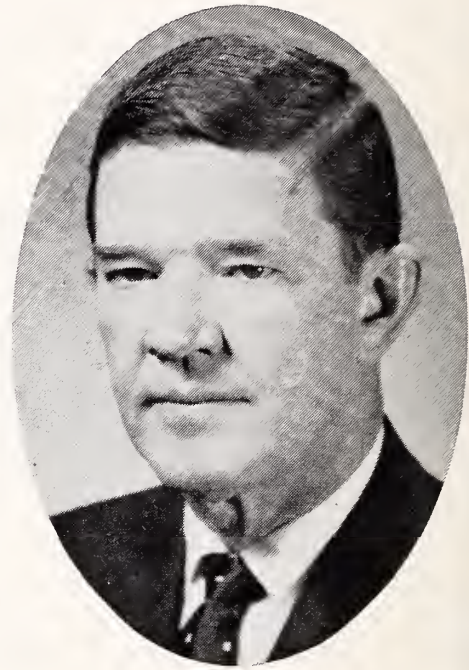
The President's Message

DEAR DOCTOR:

Up to this point Organized Medicine's efforts have been spent in the direction of attempting to convince the people and politicians that Socialized Medicine would be deleterious to the health care of this country. It is clear now that these efforts have been unsuccessful. If any number approximating a majority of people were against Government Medicine they would have stormed Washington, D. C. this past month with letters and personal visits. This did not occur.

We must now turn in another direction and decide how we, as physicians, can practice our profession best under the expensive monstrosity HR-6675, with its numerous amendments, and how we can influence the hundreds of rules and regulations that are sure to follow. This same direction should be followed in our attitude toward the recommendations of the President's Commission on Heart Disease, Stroke, and Cancer. Congress should be urged to exert caution and thorough consideration before implementing these recommendations, keeping the good and discarding the bad. And then we, as physicians, should exert all of our efforts in using the resulting programs to the best advantage for our patients and ourselves.

It seems certain that Government Medicine is now a reality. This last month the American people, by their lack of protest, have decreed it so.



Sincerely,

George Burkett, Jr., M.D.

President



Editorial COMMENT



"What is truth, asked jesting Pilate, and would not stay for the answer." So begins one of the essays of Francis Bacon. A modern short story explores conflicts among survivors on a raft. The stage, says the author, is a floating wooden raft. That is the entire world—unless you include the Pacific Ocean upon which it drifts.

Relating the anecdotes to public health and the practice of medicine presents two questions. Will the physician accept the scientific truth about public health, and how broad is his perspective?

As explained in a recent letter from your Committee on Public Health, the Legislative Council expects an answer by November 1 on what is public health and how large shall it be. The Kansas Medical Society agreed, by vote of the House of Delegates, to assist in this study.

So—now what? What is public health?

It is the collection of vital statistics, but how much? Shall it become a census bureau, record fingerprints of the entire population, addresses, occupations? What of sanitation, the pollution of water, insect control? What of mass detection surveys, immunizations, health information?

The list is long, but cost strikes a balance between luxury and essential services. A dramatic illustration is the cost differential between the first and the last mosquito in an eradication effort. If this is carried forward into all public health services there may be envisioned a monster agency regulating almost every human activity and situation.

Pursuing such theory quickly leads into an alley where selections become few and compromises are many. At some point the Legislature will answer these questions, but why should the Kansas Medical Society wrestle on the emotional level of health while an opportunity is open for service upon a vastly expanded plane?

For 107 years this Society has advised the people of Kansas about the care of their physical well being. During this century the improvement in mor-

talidity and morbidity statistics surpasses anything that could have been imagined at that time. The reduction in maternal mortality is almost beyond belief. Not one of the first ten causes of death even 50 years ago is on the list today.

Was it insulin and penicillin that brought this about? Or chlorine in the water supply? Did DDT save more lives than smallpox vaccine? *What difference does it make?* And, here you examine the truth on a broad horizon.

Health care is *total* health care, wherein public health is as exacting a medical specialty as are internal medicine, surgery and radiology. Public health is vital to the performance of all other physicians. The concept is not based upon division but upon the interdependence of all health services.

On November 1 of this year what will the physicians of this state say? What is public health?

Good public health is achieved when an understanding population avails itself, self motivated, both individually and collectively, of every sound means for the prevention of illness, early detection and cooperative effort in the care of disability or defect.

Good public health occurs when parents and teachers understand the subject and can inspire children to respect its conditions.

Good public health requires an adequate supply of physicians, nurses and laboratory technicians readily available to all people. It requires schools where they may be educated, hospitals and equipment.

So, while the Legislature will weigh pennies against dollars on the basis of specific project recommendations how much easier would be their task if the public weighed prevention against repair? When the people of Kansas know the cost of polluted water, water will be kept clean. When they know the protection of immunizations they will take them. When sanitation becomes important, food will be uniformly safe.

People must be told and this will not occur until the physician tells them. At this point it all seems

that simple and that urgent. It is the greatest opportunity the Kansas Medical Society has ever had for a public information project. The opportunity stands waiting.

Success or failure will be apparent by legislative action but its course is charted now before November 1 according to what is truth as the doctor sees it and upon the breadth of his vision.

Why a Medical Assistants' Circuit Course?

This article will be devoted to an effort to inform you, the doctor, of the value of allowing your medical assistant to further her knowledge through a circuit course. This course is designed and tailored by the medical assistants and sponsored by the Kansas Medical Society, the Kansas Medical Assistants Society, the University of Kansas Extension, and the Kansas State Board for Vocational Education.

In addition to a registration fee which helps to defray expenses incurred, the assistant gives a week-end of her time to better herself and, in turn, the efficiency of your office.

Divided into three parts, courses will be held in Kansas City, Kansas, at the Holiday Inn on August 21-22; in Wichita at the Broadview Hotel on September 18-19, and in Dodge City at the Silver Spur on October 2-3. Except for a few minor changes all three programs will be the same.

This year's program already has the earmarks of success. Highlights of the course will be talks on legal responsibility of the assistant to the doctor; what to do when the assistant becomes a bill collector; and a panel on insurance. Sunday, which really looks like a banner day, will feature a film "Not by Bread Alone," arranged by Dr. William P. Williamson, chairman of the Committee on Relations with Religion. Mrs. Lee Ann Elliott, assistant director of AMPAC, will present a talk on the functions and purposes of KaMPAC and AMPAC. Mr. Oliver Ebel will discuss current problems confronting the Kansas Medical Society—bringing your assistants up to date on HR-6675 and how this may affect their work. Then, to top off this busy day, the president of the Society, Dr. George Burket, Jr., will talk to the assistants.

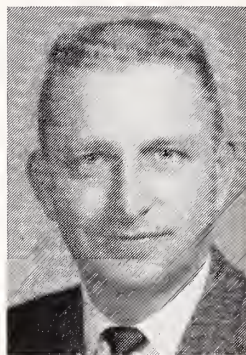
We hope you will do your best to encourage your assistant or assistants to attend this most valuable circuit course. Again the dates:

August 21-22	Kansas City, Kansas
September 18-19	Wichita, Kansas
October 2-3	Dodge City, Kansas

Success depends on participation.

NEW EXECUTIVE ASSISTANT

We are happy to announce the appointment of R. G. "Swede" Swenson as executive assistant to the Kansas Medical Society. Mr. Swenson, who wishes to be known as "Swede" to all of his friends, joined the Society staff on June 1, 1965, replacing James Imboden who resigned in February.



Mr. Swenson has been a resident of Kansas all his life and of Topeka since 1952. His experience in the past eight and a half years has been that of a "detail man" or Professional Service Representative for Lederle Laboratories and Merck, Sharp and Dohme. This should give him some knowledge and insight into doctors' problems.

Swede is married and he and his wife, Marjorie, have three children—Debbie, 14; Mike, 9; and Scott, 2.

Swede's educational background is a B.S. degree in Elementary Education from Kansas State Teacher's College, Emporia, with 15 hours toward a Master's degree from the University of Kansas. He taught in the schools of Kansas at Scott City, Osborne and Topeka.

In addition to his new position with the Society, Swede is a recently elected member of the Board of Education in Topeka.

We are proud to have Swede with us and he is ready and willing to be of service in whatever capacity the Society might ask of him.

A cathedral, a wave in a storm, a dancer's leap never turn out to be as high as we had hoped.—*Marcel Proust*

NEW MEMBERS

The JOURNAL takes this opportunity to welcome these new members into the Kansas Medical Society.

Earl V. Carlson, M.D.

10th & Main
Hays, Kansas 67601

David S. Jacobs, M.D.

Providence Hospital
1818 Tauromee Avenue
Kansas City, Kansas 66102

Barbara P. Lukert, M.D.

4141 Adams
Kansas City, Kansas 66103

Firmin E. Snodell, M.D.

University of Kansas Medical Center
Kansas City, Kansas 66103

A. Stuart Wolkoff, M.D.

University of Kansas Medical Center
Kansas City, Kansas 66103

KaMPAC*

**Kansas Medical Political Action Committee*

DEAR DOCTOR:

Last month we mentioned the work of KaMPAC is essential because constant efforts to broaden Medicare will be made. These are just a few of the organizations who wanted the following added to the bill before it was considered by the Senate:

AFL-CIO—wanted to remove the deductibles from the hospital part of the bill; also to reduce the age limit below 65.

Teamsters—wanted no contribution by the beneficiary in the insurance feature.

American Hospital Association—wanted no deductibles.

Physicians' Forum—no deductibles and fixed fees for doctors; insurance paid for entirely by the federal government.

Chiropractors—wanted chiropractors included.

Podiatrists—wanted podiatrists included.

American Nurses Association—wanted private duty nurses paid for.

Christian Science Church—wanted readers paid for.

This is the type of thing we and our friends in Congress must watch for and prevent. The more friends we have in Congress, the better for us. That is where KaMPAC comes in and where your contributions can be effective.

Very truly yours,

John W. Warren, Jr., M.D.

Chairman, KaMPAC

AMA Report

Actions of the House of Delegates

FEDERAL HEALTH CARE legislation, the report of the President's Commission on Heart Disease, Cancer and Stroke, the Gundersen Committee report on organization of the House of Delegates and a plan for a new method of establishing AMA scientific sections were among the major subjects acted upon by the House of Delegates at the American Medical Association's 114th Annual Convention held June 20-24 in New York City.

Dr. Charles L. Hudson of Cleveland, Ohio, a member of the AMA Board of Trustees since 1961, was named President-Elect of the Association. He will take office as the 121st AMA President in June, 1966, succeeding Dr. James Z. Appel of Lancaster, Pennsylvania, who was inaugurated at the Sunday opening session of the House at the New York convention.

The 1965 AMA Distinguished Service Award was won by Dr. Tinsley R. Harrison of Birmingham, Alabama, for his outstanding work in the field of cardiovascular diseases.

Final registration figures reached a grand total of 64,517, including 24,268 physicians, the largest physician registration in the Association's history.

Health Care Legislation

Most controversial issue before the House was that of nonparticipation under any so-called "Medicare" law that might be passed by Congress. This subject came up in various ways in nine resolutions and in portion of Dr. Appel's inaugural address.

The House recommended that "the members of the American Medical Association be reminded that it is each individual physician's obligation to decide for himself whether the conditions of a case for which he is about to accept responsibility permit him to provide his own highest quality of medical care."

In adopting a substitute resolution, the House declared that "the physicians of the United States of America pledge themselves to continue their search and activity, in whatever social environment may develop, to secure or to restore the freedom, high quality and availability of medical care which has been traditional in our country.

"When the fate of the pending medicare legislation is determined, this House will review, in special session if necessary, the effect of the law and take whatever action is deemed necessary.

"In keeping with the testimony before your Com-

mittee, and the expressed policies of this House, this action should in *no way* be interpreted as a change in Section 6 of the 'Principles of Ethics' of the American Medical Association which plainly states: 'A physician should not dispose of his services under terms or conditions which tend to interfere with or impair the free and complete exercise of his medical judgment and skill or tend to cause a deterioration of the quality of medical care'; and that this House of Delegates reaffirm the principles of the Bauer amendment adopted in 1961.

"The House of Delegates reaffirm the nine principles for standards of health care programs as adopted by the House of Delegates in its special meeting February 7, 1965, and amended to read as follows:

"(1) No person needing health care shall be denied such care because of the inability to pay for it.

"(2) It is appropriate that government revenues be used to finance health care when other resources have been found to be inadequate.

"(3) Every level of government, municipal, county, state and federal, should assume a responsible share in the financing of such programs.

"(4) The health care provided by such programs should be adequate and should be equal to that available to those who can afford to pay.

"(5) Maximum use should be made of voluntary prepayment and insurance mechanisms.

"(6) Administration of such program should be the responsibility of the state government. Participating states should be required to meet adequate standards of administration in order to qualify for federal funds.

"(7) Eligibility requirements for benefits should be fair, realistic, uncomplicated and practical.

"(8) Any such health care programs should provide funds only, and not direct services.

"(9) Funds for such programs may come from general tax revenues and not from social security taxes."

Offer to President Johnson

In a related action, urging that government seek the advice of the medical profession on health legislation, the House adopted a resolution which included the following statements:

"This House of Delegates restate its offer to meet

with the President of the United States through our Legislative Task Force to discuss proposed medical care legislation with a view to safeguarding the continued provision of the highest quality and availability of medical care to the people of the United States.

"The House of Delegates of the American Medical Association instruct the Board of Trustees of the American Medical Association to embark immediately on an active campaign to inform the membership of the American Medical Association of the grave considerations in adhering to our principles of ethics posed by legislation now pending before Congress.

"The American Medical Association strongly urge those branches of the government interested in the formulation, the enactment, and the implementation of laws which deal with the provision of professional medical services to the public to seek and utilize the advice and assistance of the physicians who will render such services. Such advice and assistance should be received through our chosen representatives, the officers of the American Medical Association.

"The American Medical Association intensify its efforts to modify all such pertinent legislation, employing the necessary means and appropriate actions to the end that the health of the public and the pursuit of excellence in medicine be unimpaired by such legislation.

"The American Medical Association make every effort to continue, and where necessary, to expand its communication activities so that all physicians as members of component medical societies will be promptly, continuously and completely informed of developments in this critical area during the coming months."

The DeBakey Commission Report

In considering seven resolutions involving the report and recommendations of the President's Commission on Heart Disease, Cancer and Stroke, the House adopted a substitute statement which resolved that:

"The American Medical Association point with pride to the immense strides made in the approaches to the conquest of heart disease, cancer, and stroke under existing patterns of research and medical practice; strongly favoring the use of available financial support for extension of these patterns rather than replacement by a complex of medical control centers and satellites.

"The American Medical Association oppose those particular Commission recommendations which call for and have stimulated proposals for hastily contrived and unproven sweeping changes in the pattern of medical research, education, and patient care.

"The component state medical associations be urged to conduct conferences with medical educators and

scientists, medical staffs of hospitals, medical society representatives, and other interested parties, for the purpose of exchanging information and for the development of such recommendations as may be appropriate for the continued improvement of medical education, research and patient care.

"The state medical associations be urged to report findings and recommendations resulting from these conferences to the AMA Board of Trustees, for the information of the Board, its councils, and the Association members."

The Gundersen Committee

Action on the Gundersen Committee report reviewing the size, make-up and functions of the House of Delegates was postponed until the 1965 Clinical Convention in Philadelphia.

The House adopted a reference committee report saying:

"It was apparent that if the organization of the House of Delegates of the American Medical Association, which is of paramount importance to the efficient and productive operation of the Association, is to be thoroughly studied by the delegates, more time will be required."

The Gundersen Committee was appointed an ad hoc unit at the directive of the AMA House in June, 1963. The committee, which is chaired by Gunnar Gundersen, M.D., La Crosse, Wis., a past president of the AMA, brought in an extensive 35-page report.

The committee pointed out that certain aspects of its work were unfinished, particularly those dealing with the function of the AMA scientific sections. The AMA House action recommended that the committee continue its study of scientific sections.

Organization of a New Section

In a report to the Board of Trustees, the Council on Postgraduate programs affirmed its belief that the establishment of a new section is an important change in the AMA structure, and submitted a procedure for evaluating the qualifications for a new section and the scientific programs of all sections.

In brief, this procedure provides that (1) the group requesting formation of a new section submit to the executive vice president a written request for approval; (2) the request be transmitted by the Board to the Council on Postgraduate Programs for evaluation of the petition; (3) if approved by the Council, a mandatory trial period of two years as presently in effect be provided under the auspices of the Council; and (4) after such trial period, a recommendation for acceptance or denial of the petition for the establishment of a section be made to the Board.

The House approved the recommendation, with certain word changes, and suggested that it be sent first

to the Gundersen Committee and then to the appropriate AMA council for consideration.

Miscellaneous Actions

In dealing with 73 resolutions and numerous reports from councils, committees and the Board of Trustees, the House of Delegates also:

Urged medical schools and agencies concerned with continuing education to incorporate "appropriate learning experiences" for physicians in counseling relating to sexual attitudes and behavior.

Agreed that hospital medical staffs and state and component medical societies be urged to encourage the establishment, maintenance, and proper use of cancer registries in hospitals, but that the establishment of such registries should not be made a requirement for accreditation by the Joint Commission on the Accreditation of Hospitals.

Instructed the Council on Medical Service and its Committee on Federal Medical Services to "remain alert to any deviations from policies of the Veterans Administration concerning the provision of drugs to veterans treated by private physicians, and to meet with pharmacy representatives so that the basic principle of freedom of choice" of pharmacists be maintained.

Referred to the Board of Trustees a resolution calling for the AMA to caution the public against discontinuing voluntary health insurance policies and prepayment plans for persons over 65 in "anticipation of pending legislation."

Reaffirmed its policy concerning the practice of radiology, pathology, anesthesiology and physical medicine in hospitals.

Reaffirmed AMA policy that human blood, as living tissue, should not be purchased under insurance contracts. It was recognized that exceptions may be necessary when there is need for unusually large numbers of transfusions, or whenever volunteer blood donors are not available.

Urged state and local medical societies to encourage the development of the Explorer Scout Program for Medical Specialty Posts and noted that about 150 of the 21,000 Explorer Scout posts in the country are directly related to health.

Adopted a resolution calling for continued efforts to secure the passage of legislation which will remove tax discrimination against professional people, specifically HR 10 (Keogh) and HR 697 (Weltner), but turned down recommendations that the AMA encourage its members to proceed at the state and county levels with the formation of corporations for the purpose of implementing an "organized effort in the courts to remove tax discrimination."

Directed the Board to review the subject of fed-

eral assistance for operating expenses for health or medical education facilities.

Directed the Board to study the opportunities and problems associated with Operation Head Start and other programs now operating or planned under the Economic Opportunity Act.

Referred to the Board for study a resolution calling for "a program of purchase of health insurance . . . in every state, subsidy for which shall be by federal-state participation," under which "extension of coverage shall be to all needy persons regardless of age."

Also referred to the Board for consideration and appropriate action a 10-point legislative program outlined by the Minnesota delegation.

House received a series of resolutions urging the approval of an American Board of Family Practice. All were referred to the Council on Medical Education.

Urged the Council on Medical Education to establish a standard date of appointment for all approved residency training programs.

Encouraged state and county medical societies to participate in the formation of State Associations of the Professions, "to provide a vehicle, for interprofessional cooperation in those areas where united activity of the various professions can be of great benefit."

Amended the bylaws to provide that the vice president shall succeed to the presidency should the president die, resign or be removed from office.

Accepted a Board of Trustees report stating that it had referred to the joint AMA-American Bar Association committee a previously introduced resolution designed to present a grievance against alleged abuse of legal processes, characterized in the resolution as "vexatious litigation."

Opening Session

Dr. Appel, expressing his personal opinion in his inaugural address at the Sunday session, said that if the omnibus Medicare bill is passed by Congress, the medical profession must do all it can to develop the good points and eliminate the bad points of the law. He declared that, regardless of personal opinion, "we do not have the right—either as physicians or citizens—to violate a law or to violate the spirit of the law or its intent." Outgoing President Donovan F. Ward pointed out:

"If it were true that the public climate was the dominant factor affecting the decisions of those who make legislative history, we now would be winning both in the House and the Senate."

Election of Officers

Dr. Hudson's unexpired term on AMA's Board of Trustees will be filled by Dr. Irvin E. Hendry-

son, Denver, Colorado. Dr. Hendryson will serve until 1967.

Re-elected to the Board for three-year terms were: Drs. Lester D. Bibler, Indianapolis; J. B. Copeland, Austin, Texas; Gerald D. Dorman, New York; L. O. Simenstad, Osceola, Wisconsin.

W. A. Andrew Bunten, M.D., Cheyenne, Wyoming, was elected to a one-year term as the Association's vice president.

Dr. Milford O. Rouse of Dallas, Texas, was re-elected Speaker of the House of Delegates, and Dr. Walter C. Bornemeier of Chicago was re-elected Vice Speaker.

Elected to the Council on Medical Education were Dr. Bland W. Cannon of Memphis, Tennessee; Dr. William R. Willard of Lexington, Kentucky (to succeed himself) and Dr. Earle M. Chapman of Boston, Massachusetts.

Named to the Council on Medical Service were Dr. C. A. Hoffman of Huntington, West Virginia, and Dr. Russell B. Roth of Erie, Pennsylvania, who was re-elected unanimously. Dr. George D. Johnson of Spartanburg, South Carolina, member of the Council on Constitution and Bylaws, was also re-elected unanimously.

Dr. James H. Berge of Seattle, Washington, was named to succeed himself on the Judicial Council.

L. R. PYLE, M.D.

Delegate

W. J. REALS, M.D.

Alternate Delegate

Seated for C. W. MILLER, M.D.

about it—the staff of Aesculapius, the insignia of the medical profession.

The symbol is used by many individuals. Diabetic coma, for instance, sometimes makes its victims appear intoxicated, and treatment may be dangerously delayed. The symbol also is used to indicate allergies to antibiotics, such as penicillin.

The need for certain medicines must be known. Heart patients taking drugs to prevent blood clots may bleed profusely if injured unless they receive special care. Epileptics could be saved much trouble and unnecessary hospitalization if they carried a card indicating they may have seizures.

The American Medical Association recommends that everybody have a card, such as the AMA emergency medical identification card, to show who they are, where they live, whom to call if they become ill or injured, the name of their doctor, and when they were immunized, particularly against tetanus, or lockjaw. On this card should be noted any special problems that need immediate attention in an emergency or could cause an emergency.

Some people's problems are so serious that it is absolutely essential for the first aider to know about them in an emergency. A durable signal device made of metal or plastic should be worn by such people, preferably about the neck or on the wrist or ankle.

Many organizations and manufacturers sell durable signal devices for emergency medical identification. The names of those reported to the AMA may be obtained by writing to Emergency Identification—AMA, American Medical Association, 535 North Dearborn Street, Chicago, Illinois, 60610. The AMA emergency identification card also is available from the same address.

EMERGENCY MEDICAL IDENTIFICATION

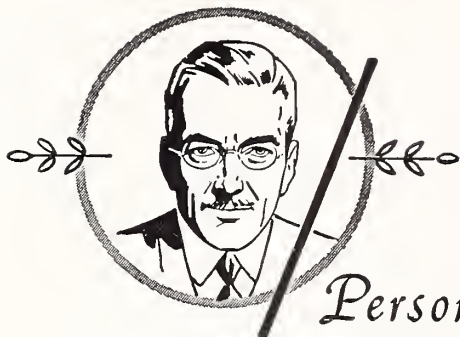
Almost two years ago American physicians, through the American Medical Association, announced a new universal symbol which tells anyone rendering emergency care to a person who is unconscious or otherwise unable to communicate that its wearer has a special physical condition requiring special attention.

In the intervening two years the symbol has gained world-wide acceptance. It has been widely disseminated throughout the United States and, through the World Medical Association, is now being utilized in many other nations.

The symbol may be displayed on a wristlet, an anklet, a medallion around the neck or elsewhere. It is a sign that there are vital medical facts on a personal health information card in the bearer's purse or wallet or on an alerting device.

The symbol is a hexagon-shaped emblem containing a six-pointed figure, or sign of life. Superimposed on the figure is a staff with a snake entwined





Personalities—IN KANSAS MEDICINE

Norton L. Francis and **C. Lucien Gray**, both of Wichita, recently attended an internationally known postgraduate course in ear surgery at the University of Bordeaux, Bordeaux, France. They were among the 20 English speaking physicians selected to attend the course.

At the annual dinner meeting of the Kaw Valley Heart Association held at Ottawa in June, **David G. Laury**, Ottawa, was installed as chairman of the board and **Antoni M. Diehl**, Prairie Village, took office as president. Among the new directors elected were **Alex C. Mitchell**, Lawrence and **Kenneth A. Powell**, Prairie Village. **Willard A. Madison**, Nortonville; **Calvert J. Winter**, Kansas City; and **Charles H. Young**, Atchison, were re-elected to the board of directors.

R. A. Haines, director of the Division of Institutional Management, has announced the resignation of **H. G. Whittington**, effective in September. Dr. Whittington, who has been Director of Community Mental Health Services in Kansas has accepted a position as Director of Psychiatry for the Department of Health and Hospitals in Denver, Colorado.

Raymond A. Schwegler, Jr., Lawrence, has been named acting director of the Student Health Service at the University of Kansas. A permanent successor has not been named to replace **Ralph I. Canuteson**, who retired the last of June after directing the health service for 37 years.

The residents of Rush County honored **Joseph H. Baker**, La Crosse, for 50 years of service to the community and surrounding area.

Among the Kansas physicians attending the annual convention of the AMA held in New York City in June were **George E. Burket, Jr.**, Kingman; **Roger D. Warren**, Hanover; **B. John Ashley**, Topeka; **J. Warren Manley**, Kansas City; **Lucien R. Pyle**, Topeka; and **William J. Reals**, Wichita.

Ferdinand C. Helwig, Kansas City, was honored in June as the retiring chairman of the technical advisory committee of the Community Blood Bank of the Kansas City Area, Inc.

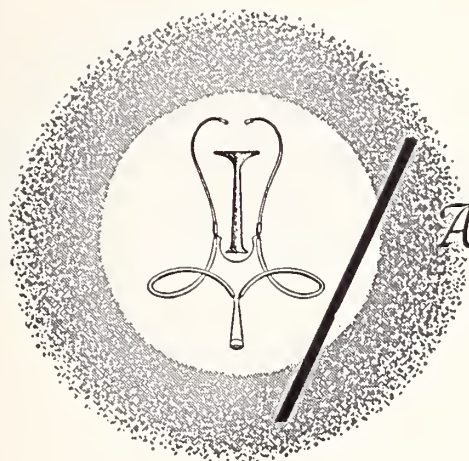
M. M. Tinterow, Wichita, was the feature speaker at the monthly meeting of the South Central Pharmaceutical Association in June.

The announcement of two staff appointments at the Menninger Foundation was made in July by **William C. Menninger**, president. **Harvey Schloesser** was named assistant director of the C. F. Menninger Memorial Hospital, and **Robert Menninger** is the new director of the Outpatient Diagnostic Service.

Ernest W. Mitts, Bonner Springs, was the guest speaker at a banquet in June honoring employees of St. Margaret Hospital in Kansas City. Dr. Mitts is president of the hospital's medical staff.

Correction

In the July issue, Dr. Eugene K. Enns was listed as president of the EENT Section. The president of this group for 1965-66 is Dr. James H. Enns of Newton.



Announcements

Professional meetings, conferences, and postgraduate courses of national importance are listed for the DOCTOR'S CALENDAR. Notice of the session is posted in advance to allow the physician time to make preparations.

AUGUST

- Aug. 22-27 Flying Physicians Association, Miami Beach, Florida. Write: John C. Chatterton, Albert Carrier, Inc., 332 S. Michigan, Chicago 60604.
- Aug. 26-28 Three-day course directed to the surgically oriented physician, University of Wisconsin Medical Center, Madison. Write: Paul Knipping, 401 Extension Building, University of Wisconsin, Madison 53706.

SEPTEMBER

- Sept. 14-17 Annual meeting, American Association of Blood Banks, Bal Harbour, Florida. Preconvention technical seminar on hemolytic disease. Write: American Association of Blood Banks, Suite 1322, 30 N. Michigan, Chicago.
- Sept. 15 National Conference on Community Health Services, Chicago. Write: National Commission on Community Health Services, Inc., 7815 Old Georgetown Road, Bethesda, Maryland 20014.
- Sept. 16-17 Annual West North-Center Interprofessional Seminar on Diseases Common to Animals and Man, University Hospitals, Iowa City, Iowa. For details write: Dr. Wm. F. McCulloch, Institute of Agricultural Medicine, University of Iowa, Iowa City.
- Sept. 19-22 Annual Session, Colorado Medical Society, Broadmoor Hotel, Colorado Springs. Contact: Colorado Medical Society, 1809 E. 18th Ave., Denver 80218.

OCTOBER

- Oct. 4-6 Annual Fall clinical conference, Kansas City Southwest Clinical Society, Hotel Muehlebach, Kansas City, Missouri. (Acceptable for 20½ hours by AAGP)

- Oct. 4-6 District VII meeting, American College of Obstetrics & Gynecology, Riverside Hotel, Gatlinburg, Tennessee.
- Oct. 10 Annual scientific meeting, American College of Nutrition, Americana Hotel, New York City. Contact: Robert A. Peterman, M.D., 3 Craig Court, Totowa Borough, New Jersey 07512.
- Oct. 11-13 Academy of Psychosomatic Medicine, Sherman House, Chicago. Contact: Edwin Dunlop, M.D., 150 Emory St., Attleboro, Massachusetts 02703.
- Oct. 14 Symposium on suicide, George Washington University, Washington, D.C.
- Oct. 18-22 Annual clinical congress, American College of Surgeons, Atlantic City, New Jersey. Write: American College of Surgeons, 55 E. Erie St., Chicago 60611.

POSTGRADUATE COURSES

University of Kansas:

- Sept. 22 Closed Chest Cardiac Resuscitation
- Sept. 24 Infectious Diseases
- Sept. 30- Oct. 1 School Health: The Environment of Learning

For further information write the Department of Postgraduate Medical Education, University of Kansas Medical Center, 39th & Rainbow Blvd., Kansas City, Kansas 66103.

- Sept. 19 *The Psychiatrist for the Defense Debates the Psychiatrist for the Plaintiff*, on the medico-legal aspects of neurosis following trauma. Postgraduate seminar for family physicians, Neurological Hospital, Kansas City, Missouri. Contact: Paul E. Robinson, Neurological Hospital, 2625 West Paseo, Kansas City, Missouri.



Book REVIEWS

GIVE AND TAKE, by Francis D. Moore, M.D. W. B. Saunders Company, Philadelphia, 1964. 182 pages illustrated. \$5.50.

This book is an excellent and enjoyable review of the development of tissue transplantation, written and explained so that the layman, as well as the physician, may understand the problems involved in this area of medical research and development.

A brief explanation of antigens, antibodies and immunity is followed by a summary of laboratory experiments which preceded the development of skin grafting and more recently the transplantation of kidneys. A review of the concurrent development of the artificial kidney and its importance in the success of kidney transplantations is discussed.

"Rejection" phenomena and the struggle to prevent this adverse problem, first with the use of whole body irradiation and later, with the development of immuno-suppressive drugs, is well explained.

I would commend this book as well written both for the physician and the layman and recommend it as a simple yet comprehensive story of the development of tissue transplantation.—C.S.J.

ANIMAL BEHAVIOR AND DRUG ACTION, edited by Hannah Steinberg. Little, Brown and Company, Boston, 1964. 491 pages illustrated. \$13.00.

Nearly 50 experts present in this book some 40 papers and numerous discussions relating to the effects of drug actions on animal behavior, the measurement, interpretation and evaluation of these effects, and the possible relevance of drug effects in animals to their effects in man. For the practicing physician who has a large curiosity bump or a special interest in theoretical considerations of drugs effects there

are several interesting papers; but for the medical pragmatist—practically nothing.

The book is well printed and bound. It is adequately illustrated and indexed, and copiously documented.—J.D.R.

CLINICAL NEUROLOGY, by Frank A. Elliott, M.D. W. B. Saunders Company, Philadelphia, 1964. 688 pages illustrated. \$12.50

The author has rather carefully produced a comprehensive handbook of neurological disorders, including those of muscle, which is reasonably up to date. There are no chapters on basic anatomy or physiology, but these subjects are woven into some of the clinical discussions. This text can give good service as a quick initial reference for interns and residents, for whom it is specifically designed, and it provides bibliographies for those who would look further. It is also a useful reference for physicians in practice in fields outside of neurology.—J.M.S.

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Recent Acquisitions

- Adams, J. C. Outline of orthopaedics. 5th ed. Williams & Wilkins, 1964.
- Adler, F. H. Physiology of the eye; clinical application. 4th ed. Mosby, 1965.
- American Psychiatric Association. Committee on Occupational Psychiatry. The mentally ill employee. Harper & Row, 1965.
- American Psychopathological Association. The evaluation of psychiatric treatment; the proceedings of the 52d annual meeting, 1962. Grune & Stratton, 1964.
- Ansell, G. B. and Hawthorne, J. N. Phospholipids: chemistry, metabolism and function. Elsevier, 1964.
- Aykroyd, W. R. and Doughty, Joyce. Legumes in human nutrition. F.A.O., 1964.
- Battle, R. J. V., ed. Plastic surgery. Butterworths, 1965.
- Behrens, C. F. and King, E. R., eds. Atomic medicine. 4th ed. Williams & Wilkins, 1964.
- Bordicks, K. J. Patterns of shock; implications for nursing care. Macmillan, 1965.
- Ciba Foundation Study Group No. 19, London, 1964. Comparative biochemistry of arginine and derivatives. Little, Brown, 1965.
- Ciba Foundation Symposium: cardiomyopathies, London, Little, Brown, 1964.
- Fairweather, G. W., ed. Social psychology in treating mental illness . . . Wiley, 1964.
- Conference on Community Mental Health Research. 3d, Washington University, St. Louis, 1961. The psychiatric hospital as a social system; proceedings. Thomas, 1964.
- Gartland, J. J. Fundamentals of orthopaedics. Saunders, 1965.
- Gebhardt, L. P. and Anderson, D. A. Microbiology. 3d ed. Mosby, 1964.
- Gergely, John, ed. Biochemistry of muscle contraction. Little, Brown, 1964.
- Glasser, William. Reality therapy, a new approach to psychiatry. Harper & Row, 1965.
- Gould, S. E. and others. Microscopic pathology. Williams & Wilkins, 1964.
- Graubard, M. A. Circulation and respiration, the evolution of an idea. Harcourt, Brace & World, 1964.
- Groen, J. J. Psychosomatic research; a collection of papers. Pergamon, 1964.
- International Congress of Chemotherapy. 3d, Stuttgart, 1963. Verhandlungen. Proceedings. Hafner, 1964. v. 1-2.
- Macfarlane, D. A. and Thomas, L. P., eds. Textbook of surgery. Williams & Wilkins, 1964.
- Mills, I. H. Clinical aspects of adrenal function. Davis, 1964.
- Prelinger, Ernst and Zimet, C. N. An ego-psychological approach to character assessment. Free Press of Glencoe, 1964.
- Prick, J. J. G. and van de Loo, K. J. M. The psychosomatic approach to primary chronic rheumatoid arthritis . . . Davis, 1964.
- Russell, P. S. and Monaco, A. P. The biology of tissue transplantation. Little, Brown, 1965.
- Shaldon, Stanley and Cook, G. C., eds. Acute renal failure; a symposium. Davis, 1964.
- Solotorovsky, Morris, ed. Cell culture in the study of bacterial disease. Rutgers, 1965.
- Stuart-Harris, C. H. and Dickinson, Lois. The background to chemotherapy of virus diseases. Thomas, 1964.
- Symposium on Human Ovulation, Brookline, Mass., 1962. Human ovulation . . . Little, Brown, 1965.
- Tocantins, L. M. and Kazal, L. A., eds. Blood coagulation, hemorrhage and thrombosis; methods of study. 2d ed. Grune & Stratton, 1964.
- Van Wagenen, Gertrude and Simpson, M. E. Embryology of the ovary and testis, Homo sapiens and Macaca mulatta. Yale, 1965.
- Welch, C. E. Polypoid lesions of the gastrointestinal tract. Saunders, 1964.

KANSAS STATE DEPARTMENT OF HEALTH
TOPEKA, KANSAS
Division of Preventable Diseases—Division of Vital Statistics—Kansas Morbidity Incidence
Summary of Cases Reported in April, 1965 and 1964

Diseases	April			January to April Inclusive		
	1965	1964	5-Year Median 1961-1965	1965	1964	5-Year Median 1961-1965
Amebiasis	—	4	6	—	6	16
Aseptic meningitis	—	—	—	3	1	1
Brucellosis	—	—	3	—	1	5
Diphtheria	1	—	—	1	3	—
Encephalitis, infectious	—	6	2	5	17	6
Gonorrhea	167	276	228	780	1,004	910
Hepatitis, infectious	67	52	67	252	297	259
Meningitis, meningococcal	3	—	2	9	4	7
Pertussis	—	4	3	8	8	8
Poliomyelitis	—	—	—	—	—	—
Rheumatic fever	—	1	—	2	3	2
Salmonellosis	31	16	16	82	59	47
Scarlet fever	12	3	71	53	61	253
Shigellosis	4	25	4	33	131	33
Streptococcal infections	449	180	178	1,779	924	731
Syphilis	67	79	79	302	335	365
Tinea capitis	8	9	13	20	34	39
Tuberculosis	19	24	25	70	83	100
Tularemia	—	—	1	1	3	5
Typhoid fever	—	—	—	—	2	—

RECOMMENDED OPV BOOSTER—1965
AMENDMENTS TO KANSAS SCHOOL
IMMUNIZATION LAW

OPV Booster

A booster dose of Trivalent Oral Polio Vaccine is now recommended for young children. Infants beginning the Trivalent Oral Polio Vaccine Series before six months of age need a third dose at one year and a booster *before entering school*. If the series is started after six months of age, a single booster is needed before entering school. Children who have had the Monovalent Oral Polio Vaccine series also need a Trivalent booster at school age.

Antibody titer tests are being conducted to determine further recommendations, but oral polio vaccine boosters are not presently considered necessary for older children or adults.

School Immunization Law

The 1965 Kansas Legislature passed three amendments to the Kansas School Immunization Law. The revisions require measles immunization and tuberculin testing prior to entering a Kansas school, and

they further delete the clause which allowed exemption for personal reasons. The present law lists only health, religious objection, and financial hardship as sufficient reason for exemption. Where financial difficulty is indicated, the required tuberculin test and immunizations may be requested of the local health board.

Immediate consideration should be given to tuberculin testing for those children who are preparing to enter school. Early tests have indicated that the live measles vaccine may cause an anergy or lack of reaction to tuberculin. It is therefore, recommended that the tuberculin test be administered first, four to six weeks prior to the administration of the measles vaccine. Reversing this procedure may result in an occasional false negative response to the tuberculin test. The depression of the tuberculin reaction, stimulated by the live vaccine, may persist for as long as six months.

The only bad part of being a good sport is that you have to lose to prove it.—*Walter Winchell*

A man who causes fear cannot be free from fear.—*Epicurus*



E. SMITH EDGERTON, M.D.

E. Smith Edgerton, 80, died in Wichita on June 22, 1965.

Dr. Edgerton was born in Galesburg, Illinois, on June 30, 1884. He attended Knox College and graduated from Rush Medical School in Chicago in 1910. After teaching for two years at Pittsburgh Medical University, he moved to Wichita to establish his practice. He was a member of several civic, fraternal and medical organizations. He also had served as physician for a manufacturing company as well as for the Frisco Railroad and Rock Island Lines in Wichita.

Survivors include a son and a daughter.

HARRY C. NUTTING, M.D.

Harry C. Nutting, a retired Emporia physician, died June 29, 1965, at a rest home in Wichita. He was 84 years old.

Dr. Nutting was born August 26, 1880, in Emporia. He was graduated from the Louisville School of Medicine, Louisville, Kentucky, in 1904. After completion of his post-graduate training at the University of Chicago he returned to Emporia to practice medicine. A specialist in urology, he retired in 1952.

He is survived by his wife, a son and a daughter.

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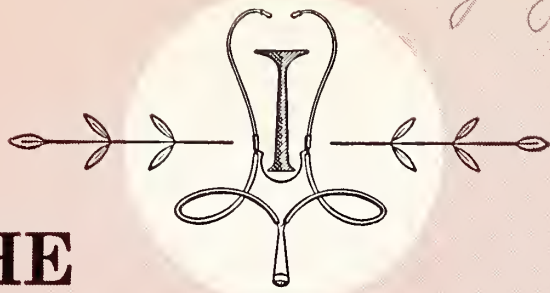
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The JOURNAL of the KANSAS MEDICAL SOCIETY

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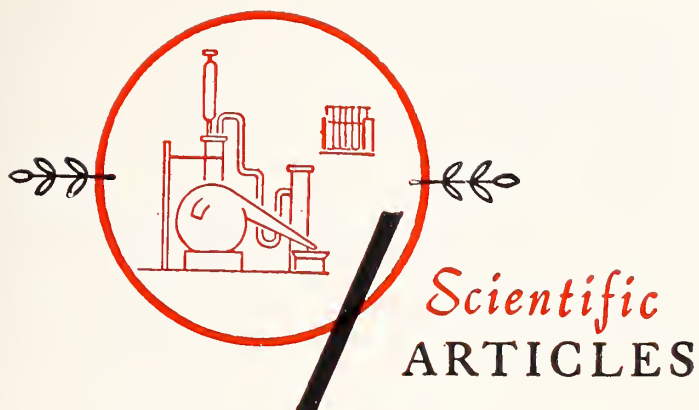
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The Prevention of . . .

Rheumatic Fever and Rheumatic Heart Disease in Kansas

RAY E. ALLEN, M.D.,* *Topeka*, ANTONI M. DIEHL, M.D.,** *Kansas City, Kansas*,
NORMAN W. ANDERSON, M.D.,*** *Topeka*, and
KATHERINE PENNINGTON, M.D.,**** *Wichita*

HEART DAMAGE due to rheumatic fever stands alone as the cardiovascular disease with the greatest potential of being preventable by current methods of treatment. The early diagnosis and proper treatment of group A streptococcal infections can prevent the initial attack of acute rheumatic fever. Furthermore, recurrence of rheumatic fever can be eliminated by the maintenance of a continuous prophylactic program against group A streptococcal infections in rheumatic subjects. In spite of these facts rheumatic heart disease caused 181 deaths in Kansas in 1963.¹

The objectives of this communication are fourfold: First, information as to the prevalence of rheumatic fever and rheumatic heart disease in the state of Kansas will be summarized. Second, techniques cur-

Although rheumatic heart disease is potentially preventable, it continues to be a problem in Kansas. Failure on the part of the patient and his family to seek medical attention, incomplete diagnosis, inadequate therapy and silent streptococcal infections are persistent problems in the prevention of rheumatic fever and rheumatic heart disease.

By being fully aware of the factors involved, Kansas physicians can approach the goal of further reduction of morbidity and mortality due to this disease.

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*** Director of Medical Health Services, Kansas State Department of Health, Topeka.

**** Chairman, Committee on Rheumatic Fever and Congenital Heart Disease, and President-Elect, Kansas Heart Association; Practicing Pediatrician, Wichita.

rently being used for identifying group A streptococcal infections will be presented. Third, the accepted methods of treatment of streptococcal infections and the prevention of such infections in rheumatic subjects will be outlined. Finally, problems related to the prevention of rheumatic fever and rheumatic heart disease will be discussed, and suggestions for correcting these difficulties will be considered.

Prevalence of Rheumatic Fever and Rheumatic Heart Disease in Kansas

Little information was available in Kansas concerning rheumatic fever and rheumatic heart disease morbidity until 1962 when the Kansas Heart Association conducted a survey to collect information which would be helpful in determining the prevalence (total number of cases, new and recurrent) of rheumatic fever and congenital heart disease.² The results of this study led to the implementation of a statewide, low-cost prophylaxis program for the prevention of recurrent attacks of rheumatic fever since almost one half of the cases reported during 1962 were recurrent (Table 1).

TABLE 1		
RHEUMATIC FEVER CASES REPORTED BY 256 PHYSICIANS, KANSAS, 1962		
Register Status	Number	Per Cent
Total	742	100.0
New Cases	401	54.0
Recurrent Cases	341	46.0

Source: 1962 Morbidity Study conducted by Kansas Heart Association.

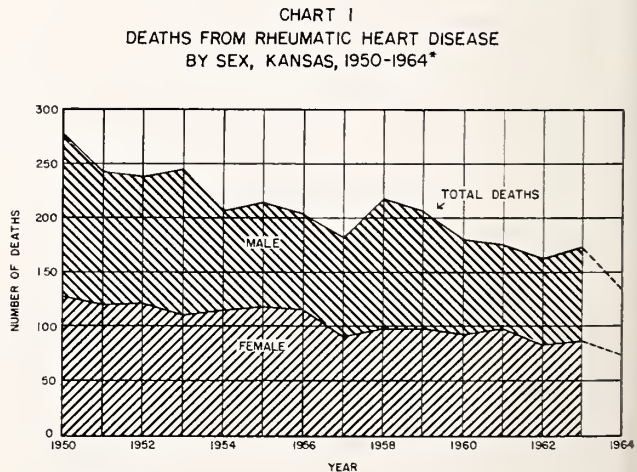
The age breakdown of the 742 rheumatic fever cases reported during 1962 shows that 447 were under 15 years of age, resulting in a prevalence rate of 66.5 per 100,000 population; the remaining 295 cases resulted in a rate of 19.6 per 100,000 for adults. Thus, from these recent data it was learned that rheumatic fever in Kansas was still sufficiently common to merit further efforts toward reducing its morbidity and mortality, and eventually its counterpart, rheumatic heart disease.

The prevalence of rheumatic fever and rheumatic heart disease among entering college freshmen was recently reported by Marienfeld. In a nationwide project, college freshmen were screened for a history of rheumatic fever and were examined for evidence of residual rheumatic heart disease. The two-part questionnaire consisted of a history completed by the student and a physical examination report by a private or student health physician. More than 500,000 college freshmen participated in interviews and examinations. Although only one third of the cases of rheumatic fever by history had identifiable residual rheumatic heart disease, the physical examination was considered vital since one fourth of those students found to have heart damage on examination had no prior history of the disease. These cases

would not have been detected if the physicians had examined only those students with a positive history of rheumatic fever or rheumatic heart disease.

Kansas practitioners will be particularly interested in the questionnaires submitted from Kansas students. Of the 11,314 Kansas students examined, 243 had, as reported on the questionnaire, a probable or definite history of rheumatic fever. The prevalence of rheumatic fever was therefore 21.5 per 1,000 students. The diagnosis of probable or definite rheumatic heart disease was established, by physician examination, in 74 of 11,314 Kansas college freshmen yielding a prevalence rate of 6.15 per 1,000 students. Marienfeld's study further pointed out that of 247 college freshmen in Kansas who had either rheumatic heart disease or a history of rheumatic fever, only 49.8 per cent had ever received streptococcal prophylaxis! Even more striking was the finding that only 7.3 per cent of the college freshmen from Kansas were on medication at the time of the study. From this information, Kansas ranked 41 among the 50 states in the use of prophylaxis to prevent the recurrence of rheumatic fever. These figures were of additional concern since Kansas ranked 19th in the prevalence of rheumatic heart disease and 18th in the prevalence of definite or probable rheumatic fever.

A decline in the mortality from rheumatic heart disease has been reported in numerous studies from several parts of the world. Improved living conditions, more accurate diagnosis, better control of streptococcal infections and the extensive use of antibiotics are some of the factors responsible for this downward trend. A similar decline has been observed in Kansas over the past 15 years as illustrated in Chart I. There were 181 deaths from rheumatic heart disease in 1963, nine of which occurred during



*Figures for 1964 are provisional.

TABLE 2
NUMBER OF DEATHS FROM RHEUMATIC HEART DISEASE
AND ACUTE RHEUMATIC FEVER BY AGE GROUPS,
KANSAS, 1963

	Total	1-19	20-39	Age Group		
				40-59	60-79	80 AND OLDER
Chronic Rheumatic Heart Disease	172	3	12	62	70	25
Rheumatic Fever with Heart Involvement . .	9	1	2	2	4	—
Total	181	4	14	64	74	25

the acute phase of rheumatic fever (Table 2). It is noteworthy that eight of the nine patients who died from acute rheumatic fever were over 20 years of age. Perhaps some of these nine cases were erroneously diagnosed as having acute rheumatic fever whereas in actuality they succumbed from rheumatic heart disease.

Recognition of Streptococcal Infections

The prevention of primary attacks of rheumatic fever and rheumatic heart disease is dependent upon accurate diagnosis of streptococcal infections due to group A beta hemolytic streptococci.⁴ Throat culture is the principal method available to establish the etiologic agent. Clinical judgment alone affords a correct diagnosis in only half the cases of streptococcal sore throat even in the hands of the most astute clinician.⁵ Criteria such as leukocytosis, tonsillar exudate and lymphadenopathy have been used in attempting to substantiate the diagnosis of streptococcal infection but are not specific indicators to differentiate this disease entity from other infections which are common to the upper respiratory tract.⁶ Since over half of streptococcal infections masquerade as non-specific upper respiratory infections with atypical symptoms, the importance of bacteriological confirmation of group A hemolytic streptococci as the etiologic agent becomes even more apparent.

To aid the practicing physicians the American Heart Association has available a publication entitled "A Method for Culturing Beta Hemolytic Streptococci" which may be obtained from the Kansas Heart Association or one of its chapters, the Sedgwick County Heart Association or the Kaw Valley Heart Association.

The following specialized laboratory procedures have been developed for the identification of group A beta hemolytic streptococcal infections and may be of value to the Kansas physician:⁷ (1) A rapid presumptive test for the differentiation of group A streptococci from other beta hemolytic streptococci

can be easily done utilizing reinoculation and the bacitracin sensitivity method.⁸ These special differentiation discs are commercially available.* Since group A beta hemolytic streptococci are sensitive to bacitracin, a zone of growth inhibition around the disk will be present while other beta hemolytic streptococci will grow to the edge of the disc. (2) Rapid and accurate identification of group A beta hemolytic streptococci can also be made with the use of the fluorescent antibody technique which is now available at the several laboratories in the State. The clinician should be familiar with the bacteriological laboratory facilities available in his locality. During acute streptococcal infections a single carefully done throat culture will almost invariably yield large numbers of the offending organism.

The transporting of bacteria from the patient to the laboratory can be facilitated by the use of media obtainable from supply houses; the dried filter paper technique has been demonstrated to be a successful method.⁹

Therefore, when the bacteriologist and the physician have as a common goal the rapid and accurate identification of group A beta hemolytic streptococcal infections, then appropriate therapy to eradicate the organism will follow.

Since the clinical symptomatology and the physical signs of streptococcal infection may be extremely variable, a few guidelines for recognition are necessary. The sudden onset of sore throat and pain on swallowing are the rule. Headache is common and fever generally is 101° to 104°. Abdominal pain with or without nausea and vomiting are frequent symptoms, especially in children. The throat is quite red and exudate is usually present on the oropharynx and tonsils 24 hours after the onset of symptoms. Swollen, tender, submandibular lymph nodes under the angles of the jaw are most often present. A scarlatiniform

* Difco Laboratories, Detroit 1, Michigan, and Baltimore Biological Laboratories, Baltimore 18, Maryland.

rash, when present, is a cardinal feature of streptococcal infection. Acute sinusitis and acute otitis media are not infrequently due to the streptococcus. Finally, simple coryza, hoarseness, cough and conjunctivitis alone usually are not associated with streptococcal infections.

Treatment of Streptococcal Infections

Although treatment of streptococcal infections should be initiated as soon as possible after the onset of symptoms, the short delay required to confirm the diagnosis by throat culture does not jeopardize the chance of preventing the non-suppurative streptococcal complication of rheumatic fever. The attack rate of acute rheumatic fever will approach zero when therapy is started within three to four days of the onset of the acute streptococcal infection; and even after a delay of a week, a significant reduction in attack rate occurs.¹⁰ When an upper respiratory infection, particularly a tonsillopharyngitis, is suspected of being caused by group A beta hemolytic streptococci, but confirmation by culture is not feasible, therapeutic management should be identical to that of proven streptococcal etiology.

Penicillin continues to be the drug of choice in the treatment of streptococcal infections. Thus far, group A beta hemolytic streptococci have not been reported to be resistant to penicillin even in low serum concentrations. Since prevention of rheumatic fever is dependent upon the eradication of streptococci from the throat, a ten-day course of penicillin is required to accomplish this objective.¹¹ Successful therapy of streptococcal infections is not primarily dose dependent (high serum concentrations of penicillin are not necessary) but rather duration dependent; therapeutic levels of penicillin in the serum (0.1-0.4 units/ml.) must be maintained for ten days.

Although the therapeutic course of penicillin may be administered either by intramuscular or oral route, the simplest and surest method now available to eradicate streptococci from the throat is the single intramuscular injection of respository benzathine penicillin G. A single injection of 600,000 units of benzathine penicillin G in children under ten years of age and 1,200,000 units for older children and adults will produce an adequate sustained blood level for a sufficient length of time to assure proper treatment. Oral therapy has the inherent disadvantage of being dependent upon patient cooperation for the full ten days which is mandatory if streptococci are to be eliminated (Table 3). It is noteworthy that sulfa preparations have no role to play in the treatment of streptococcal infections, and antibiotic troches and lozenges are inadequate for treatment and should not be used.¹⁰

TABLE 3

RECOMMENDED TREATMENT SCHEDULE FOR STREPTOCOCCAL INFECTIONS

I. Intramuscular Penicillin

A. Benzathine penicillin G

1. Children under 10 years of age—a *single* intramuscular injection of 600,000 units.
2. Adults and children 10 years of age and older—a *single* intramuscular injection of 1,200,000 units.
3. Mixtures containing shorter acting penicillins should *not* be substituted for the doses of benzathine penicillin G!

B. Procaine penicillin G

600,000 units intramuscularly daily for 10 days.

II. Oral Penicillin

Children and adults—200,000 or 250,000 units of buffered penicillin G four times daily for a full 10 days.

1. Therapy must be continued for the *entire* 10 days even though the patient is afebrile and asymptomatic.
2. Alpha-phenoxymethyl penicillin (penicillin V) or alpha-phenoxethyl penicillin (Phenethicillin) may be substituted for the buffered penicillin G but are not superior to it and are more costly.

III. Other Antibiotics

Erythromycin may be used when penicillin sensitivity exists. Dosage: 250 mgms. four times daily for a full 10 days is probably as effective as oral penicillin in the treatment of streptococcal infections.

Prevention of Streptococcal Infections in Rheumatic Subjects

Recurrences of rheumatic fever are preventable by utilizing a continuous prophylactic program in rheumatic subjects. Therefore, to eliminate rheumatic fever recurrences and reduce the possibility of progressive rheumatic heart disease, all patients who have had well-documented cases of rheumatic fever or chorea, or who show unequivocal rheumatic heart disease should be on continuous prophylaxis to maintain them free of streptococcal disease. Rheumatic recurrences may occur at any time, but there is predilection for recurrence within five years of the last acute attack. Exceptions to life-time prophylaxis must be on a selective basis and then only in adults without heart disease and when the risk rate of exposure to streptococcal infection is low.¹⁰

Initiation of prophylaxis is recommended as soon as a bona fide diagnosis of active rheumatic fever is made or when a well documented history of rheu-

matic fever is obtained.¹⁰ A full therapeutic course of intramuscular penicillin G, 600,000 units daily for ten days, is advisable in all new cases of rheumatic fever and in those inactive cases who have not been on continuous prophylaxis.

Several effective methods and schedules of continuous prophylaxis are outlined in Table 4. Intramuscular benzathine penicillin G, 1,200,000 units every 28 days, is the safest and surest method now available for the prevention of recurrent rheumatic fever.¹² A prime reason for the effectiveness of this form of prophylaxis rests on the fact that a therapeutic dose as well as a prophylactic level of penicillin is being administered every month.¹³

Most recurrences of rheumatic fever in patients on oral prophylaxis occur when regular, daily ingestion of the drug is not maintained. The physician should emphasize to the rheumatic subject the necessity of daily oral consumption of the prophylactic agent.

Utilizing the dosage schedules for oral sulfadiazine and oral penicillin as given in Table 4, the two drugs are equally effective in prevention of streptococcal infection and recurrence of rheumatic fever. When a definite history of sensitivity to penicillin is obtained, it probably is safer to use oral sulfadiazine as the prophylactic agent. Conversely, when a definite history of sensitivity to sulfadiazine is obtained, penicillin may be used as the prophylactic agent. In the presence of sensitivity to both penicillin and sulfadiazine, which would be extremely rare, erythromycin 250 mgs. daily may be used.

Difficulties in Rheumatic Fever Prevention

Several factors complicate the efforts of the private practitioner and the public health physician in the prevention of rheumatic heart disease. The use of antibiotic and chemotherapeutic agents for the prevention of rheumatic fever and rheumatic heart disease is a relatively new concept and such drug utilization presents some very real problems.¹⁴ Prevention of rheumatic fever can be accomplished by treating all group A beta hemolytic streptococcal infections with adequate doses of antibiotics early in the course of the illness. In epidemic situations of untreated infections caused by group A beta hemolytic streptococci the incidence of acute rheumatic fever may be as high as three per cent.⁶

Certain difficulties encountered in preventing acute rheumatic fever have been discussed recently by Grossman and Stamler. The major factors resulting in the development of rheumatic fever were: (1) "Silent" streptococcal infections; (2) failure on the part of the patient and his family to seek medical attention; (3) incomplete diagnosis; and (4) inadequate therapy. Of 110 children hospitalized with

TABLE 4
DRUGS AND DOSAGE SCHEDULES FOR
RHEUMATIC FEVER PROPHYLAXIS

- | |
|--|
| I. Benzathine penicillin G—intramuscular |
| 1. Dosage: injection of 1,200,000 units every 28 days. Mixtures of shorter acting penicillin should <i>not</i> be used in rheumatic fever prophylaxis! |
| 2. Reaction—infrequent |
| a. Discomfort at the injection site is usual. Only when local pain is severe should this form of prophylaxis be discontinued. |
| b. Urticaria, angioneurotic edema and serum sickness-like reactions are extremely rare. |
| II. Sulfadiazine—oral |
| 1. Dosage: 1 gm. once a day for patients over 60 pounds and 0.5 gm. for children under 60 pounds. |
| 2. Reactions—infrequent |
| a. If morbilliform skin rash occurs, continue drug with caution. |
| b. If urticaria or scarlatiniform rash occurs, change prophylaxis. |
| c. Leukopenia—rare but weekly white blood cell counts advisable for first two months of prophylaxis. |
| III. Penicillin—oral |
| 1. Dosage: 200,000 or 250,000 units buffered penicillin G twice daily; once daily may be adequate for children under 60 pounds. |
| 2. Alpha-phenoxymethyl penicillin (penicillin V) and alpha-phenoxyethyl penicillin (Phenethicillin) as well as other forms of oral penicillin in the same dosage are equally effective but more expensive. |
| 3. Reactions—infrequent |
| Urticaria, angioneurotic edema, serum sickness-like reactions, and history of penicillin sensitivity indicate change of prophylaxis to sulfadiazine. |

their first attack of acute rheumatic fever, 94 had experienced a prior throat infection within five weeks of the onset of the acute rheumatic fever. Throat cultures had been obtained in only 17 of these patients. Although antibiotics were given to 50 patients, in only ten children was the therapy considered adequate. Of real concern is the fact that 84 per cent of the cases of rheumatic fever in this group could have been prevented with the use of proper diagnostic methods and adequate therapy. Prevention of all cases of acute rheumatic fever would not have been possible since a number of the patients did not seek medical advice prior to the onset of their rheumatic fever or a "silent" streptococcal infection occurred.

Conclusion

Notwithstanding the fact that rheumatic heart disease is potentially preventable, it continues to be a problem in Kansas. Failure on the part of the patient and his family to seek medical attention, incomplete diagnosis, inadequate therapy and silent streptococcal infections are persistent problems in the prevention of rheumatic fever and rheumatic heart disease. These constitute a problem of sufficient magnitude to merit a well-organized effort for prevention.

The basis of prevention of rheumatic heart disease is the accurate diagnosis of streptococcal infections. Several methods are now available to Kansas physicians for facilitating the diagnosis of streptococcal infections have been presented. Utilization of these diagnostic techniques may obviate some of the difficulties which have been previously encountered in the management of the patient with a sore throat.

When the diagnosis of group A beta hemolytic streptococcal infection has been confirmed, adequate therapy is mandatory to prevent acute rheumatic fever as a complication. Penicillin is the drug of choice in the treatment of streptococcal infections but must be given for a full ten days. Details of accepted methods for therapy have been outlined.

Continuous prophylaxis against streptococcal infections in rheumatic subjects will prevent the development of rheumatic heart disease in those with normal hearts and will prevent recurrence of active rheumatic heart disease in those with already damaged hearts.

References

1. Kansas State Department of Health, Division of Vital Statistics, 1964.
2. Peckenschneider, L. E., Williams, C. L., and Green W. G.: Heart disease; A report of a survey in the state of Kansas, *J. Kan. Med. Soc.* 63:417-419 (Oct.) 1962.
3. Marienfeld, C. J., Robins, M., Sandidge, R. P., and

Findlan, C.: Rheumatic fever and rheumatic heart disease among U. S. college freshmen, 1956-1960, *Public Health Reports* 89-811 (Sept.) 1964.

4. Diehl, A. M., and Hamilton, T. R.: The prevention of rheumatic fever, *Trans. Am. Coll. of Card.* 6:41-47 (June) 1956.

5. Breeze, B. B., and Disney, F. A.: The accuracy of diagnosis of beta hemolytic streptococcal infections on clinical grounds, *J. Ped.* 44:670-673 (June) 1954.

6. Siegel, A. C., Johnson, E. E., and Stollerman, G. H.: Controlled studies of streptococcal pharyngitis in a pediatric population. 1. Factors related to the attack rate of rheumatic fever, *N. England J. Med.* 265:559-566 (Sept. 21) 1961.

7. Hollinger, Nelle F.: Streptococcal sore throat and throat culture, *Post-Grad. Med.* 28:347-354 (Oct.) 1960.

8. Maxted, W. R.: The use of bacitracin for identifying group A hemolytic streptococci, *J. Clin. Path.* 6:224-226 (Aug.) 1953.

9. Kansas State Department of Health: *Accurate diagnosis of streptococcal infections using a dried filter paper technique*, 1962.

10. American Heart Association: *Prevention of rheumatic fever*. A statement prepared by the Committee on Prevention of Rheumatic Fever and Bacterial Endocarditis of the Council on Rheumatic Fever and Congenital Heart Disease of the American Heart Association (Dec.) 1964.

11. Catanzaro, F. J., Rammelkamp, C. H., Jr., and Chamovitz, R.: Prevention of rheumatic fever by treatment of streptococcal infections, II Factors responsible for failures, *N. England J. Med.* 259:51-57 (July) 1958.

12. Diehl, A. M., Hamilton, T. R., and May, J. S.: Prevention of recurrent rheumatic fever; The use of repository bentazine penicillin G, *So. Med. J.* 49:250-259 (March) 1956.

13. Lade, R. I., Diehl, A. M., Snyder, I., and Hamilton, T. R.: Concentration of penicillin in serum following intramuscular administration of bentazine penicillin G to children with inactive rheumatic fever, *Ped.* 21:233-242 (Feb.) 1958.

14. Feinstein, A. R.: Current status of prophylaxis against rheumatic fever. *Progress in Card. Dis.* 3:204-219 (Nov.) 1960.

15. Grossman, B. J., and Stamler, J.: Potential preventability of first attacks of rheumatic fever in children, *JAMA* 183:985-988 (Mar.) 1963.

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ANNUAL OTOLARYNGOLOGIC ASSEMBLY

The Annual Otolaryngologic Assembly of 1965 will be held October 30 through November 5, in the new Illinois Eye and Ear Infirmary at the Medical Center, Chicago. The Department of Otolaryngology of the University of Illinois College of Medicine offers a condensed postgraduate basic and clinical program for practicing otolaryngologists under the direction of Doctor Emanuel M. Skolnik. It is designed to bring to specialists current information in medical and surgical otorhinolaryngology.

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Pyoderma Gangrenosum

Ulcerative Colitis Treated by Complete Colectomy, Complicated by Pyoderma Gangrenosum

STANLEY L. VANDERVELDE, M.D., *Emporia*

A GENERAL SURGEON has a good "speaking" acquaintance with ulcerative colitis and certainly should have with colectomy and permanent ileostomy in the treatment of this disabling disease. One, meaning a general surgeon, would only wish that the practitioner and internist would become more familiar with the benefits of colectomy for ulcerative colitis so the surgeon might receive these candidates for colectomy in a somewhat better nutritional state and, as a result, a better candidate for surgery.

Being familiar with ulcerative colitis and colectomy did in no way prepare this author for a secondary complication of colectomy, that of pyoderma gangrenosum. To say this author had heard of this condition would be stretching the truth. To say he systematically arrived at a diagnosis of this condition would be still further from the truth. However, to say that he stumbled accidentally onto the diagnosis would be a truthful statement, and to further state that a dermatologist in Dayton, Ohio, supplied the diagnosis, quite by accident, will become evident to the reader.

Pyoderma Gangrenosum

A short discussion of pyoderma gangrenosum seems appropriate for those who, like this author, have never heard of the condition.

Richard L. Sutton, in his book *Diseases of the Skin*, states that pyoderma gangrenosum comprises a group of uncommon cases characterized by suppurative destruction of the skin associated with infection of long duration elsewhere in the body. W. F. Lever, in his book *Histopathology of the Skin*, describes pyoderma gangrenosum as subcutaneous abscesses that break down and form ulcers. The ulcers spread peripherally. The advancing borders are purplish red, edematous and undermined. The condition is not infrequently associated with ulcerative colitis. The cause of the condition is unknown.

Brunsting, Goeckerman, and O'Leary, in 1930, first reported five patients with pyoderma gangrenosum. Four of these patients had ulcerative colitis, and the fifth had thoracic empyema. They described the lesions as consisting of blebs, ulcers, pustules, and

abscesses. Bacteriologically, they found *Staphylococcus aureus*, *Staphylococcus albus*, *Streptococcus pyogenes*, *Bacillus proteus*, and *Bacillus pyocyaneus* in the lesions. They described the ulcers as raised, jagged, overhanging with undermined edges, bright red bases, and bathed with foul smelling, yellow-green pus. Lever stated that histopathologically the epidermis

Presentation of a case of ulcerative colitis of seven years' duration treated by complete colectomy and ileostomy. Secondary complication of pyoderma gangrenosum occurred with sloughing of the left lower quadrant of the abdomen requiring subsequent skin grafting. The literature on pyoderma gangrenosum is reviewed, with a discussion of the etiology and therapy. The importance of corticosteroid is emphasized as a specific agent in the control of the pyoderma gangrenosum.

is absent in the lesions. The upper dermis shows necrosis with acute inflammatory infiltrate. Lower down, lymphocytes, neutrophils, plasma cells, histiocytes, and fibroblasts are seen. The epidermis at the edge of the ulcers show proliferation with a histologic picture of pseudocarcinomatous hyperplasia.

Case Report

This 29-year-old white female had been followed in our office for seven years with ulcerative colitis. During the last two years, our internist had cared for her. In this seven year period she had given birth to four healthy children. She had undergone exacerbations of her colitis and for the past two years had been treated with corticosteroids for control of the exacerbations. On several occasions she had received blood transfusions because of secondary anemia. Between exacerbations she carried on her usual household activities of a wife and mother to four very active young children.

Her normal weight was 120 pounds. On her last admission her weight had dropped to 110 pounds. She was having ten to sixteen stools a day, and her hemoglobin had dropped to 34 per cent or 6 grams. In spite of corticosteroid therapy, the diarrhea persisted. In addition, the patient developed three fistulous tracts about the anal orifice. It was felt that colectomy was indicated and probably lifesaving.

Blood transfusions were given to elevate hemoglobin and red blood cells. The laboratory findings, prior to surgery, were as follows: hemoglobin, 10 gm. or 65 per cent; RBC, 3,300,000; WBC, 14,050 with 20 stab cells, 59 segmented polymorphonuclear leukocytes, 10 lymphocytes, 8 monocytes, and 4 juvenile forms. The total protein was 5.9 gm., with 3.67 albumin and 2.23 globulin, and ratio of 1.6:1. Serum chlorides, 110.6 mEq. (643.5 mg. per cent); sodium, 135 mEq.; potassium, 6.1 mEq.; BUN, 16 mg. per cent.

On January 7, 1964, under general anesthesia and through a left paramedian incision, a complete colectomy was carried out without difficulty. The entire colon was involved in the ulcerative colitis. Approximately 12 inches of the terminal ileum was removed with the colon. The entire rectum along with the perineal sinuses was resected from below, and the perineum closed with hemovac suction. The ileostomy was placed in the right lower quadrant as this appeared to be the logical place. A plastic bag with skin adhesive adherent was immediately placed on the ileostomy with tube drainage at the bottom of the bag into a bottle by the bedside.

The patient was placed on cortisone postoperatively. Her recovery was uncomplicated and smooth with postoperative temperature reaction of about one degree. On the fifth postoperative day cortisone was discontinued. On the seventh postoperative day the patient, for the first time, appeared toxic. Temperature increased to 102 F. At this time her ileostomy was functioning actively, and she had normal peristalsis. She became more toxic with a septic type temperature elevation from 102 to 103 F. The patient had been on ample doses of chloramphenicol since surgery. The surgical wound was inspected on the eighth postoperative day. In the left lower quadrant were several small petechial, black areas in the skin, one to two millimeters in diameter. The incision fluctuated beneath it. Upon probing this area, approximately 200 cc. of a blackish water, which was offensive and foul smelling, escaped. A drain was placed in the incision, and heat was applied to the area using normal saline packs. A culture was taken.

On the ninth postoperative day the patient appeared more toxic with a temperature of 103 degrees. Her in-

cision was again inspected. The dark, petechial areas had become necrotic and dropped out leaving small ulcerated areas. Many more, which were coalescing and becoming necrotic, had appeared. By the following day it appeared that an area one and one-half inches in diameter would slough. This did, and enlarged to where eventually the entire left lower quadrant of the abdomen sloughed, leaving an area approximately 12 to 13 centimeters in diameter open and devoid of skin. The ulcer edges were raised and irregular with a bluish hue. All edges were undermined and the undermining had extended laterally to the left flank and across the dorsal back to the right flank area. Smaller necrotic areas of skin one to two centimeters in diameter followed this undermining.

During this time, the patient's ileostomy continued to function with good peristalsis present. The culture showed sensitivity to chloramphenicol, neomycin, kanamycin, and streptomycin. Culture showed *B. coli* and staphylococcus. Gram stain showed gram negative rods and gram positive cocci, some streptococcus and some staphylococcus.

The patient showed extreme toxicity and it was felt her prognosis was poor. She was maintained on intravenous fluid and blood by intravenous catheter in her anterior malleolar vein. About this time the perineal wound began to drain the same foul smelling material. Novobiocin was started intramuscularly, and the chloramphenicol was discontinued.

On the patient's twelfth postoperative day, the author, while perusing the *Journal of the American Medical Association*, read an article by Long *et al* of Dayton, Ohio, on pyoderma gangrenosum. The similarity was so great that it was felt the condition fit this patient.

After some further reading and correspondence with Dr. Long, the patient was given doses of ACTH, 40 units daily. Within 24 hours she began to appear less toxic. The drainage almost immediately decreased and the ulcerated areas took on a healthier appearance. Within a few days the temperature returned to normal. The raised edges of the ulcer lost their bluish appearance, and healthy granulation began to appear in the ulcer bed. In a week the ACTH was reduced to 20 units daily and at the end of another week the patient was switched to oral triamcinolone, 20 mg. daily.

At the end of another week the triamcinolone was reduced to 8 mg. daily. During this time the undermined areas across the flanks obliterated and the small ulcer areas showed evidence of healing. The patient had been given oral novobiocin, 250 mg. four times daily; however, this was stopped because of an unexplained urticaria. After another week the

triamcinolone was reduced to 4 mg. daily. Within two days the ulcer again took on bluish edges which became raised, and undermining, associated with foul discharge, began to appear. Triamcinolone was increased to 8 mg. and within 24 hours the discharge decreased. In 48 hours the ulcer edges lost their bluish color and undermining ceased. Granulation began to appear. The patient was maintained on this regime of triamcinolone with continued healing and granulation.

Her appetite remained good. Weight increased from 89 pounds at time of leaving the hospital to 100 pounds. After recovery from the initial toxicity of the pyodermic reaction, the patient's appetite and mental attitude has been excellent. She has supervised her children from her bed, and on several occasions has had friends in for bridge. At no time has her ileostomy given much trouble. She has worn an ileostomy bag and belt with a plastic cement for skin adherence. There has been slight reaction about the ileostomy stoma but this is improving with improved nutrition of the patient.

At approximately three months postcolectomy, the patient returned to the hospital for skin grafting of the left lower quadrant area which measured approximately 15 x 15 cm. in size. At that time she weighed 110 pounds. Split thickness skin was placed over the area with an approximately 95 per cent take. Cortisone was increased at the time of the skin grafting.

It is now six months since original surgery. The patient is still receiving 4 mg. of triamcinolone which will be gradually withdrawn. All areas are healed and there is no evidence at present of any recurrence of the pyoderma gangrenosum. Her weight at present is 118 pounds. She has adjusted quite well to her ileostomy. She states that had she known she could have felt so well, she would have had the surgery years before.

Discussion

In reviewing this case, it is apparent that the role of cortisone was a paramount one. It was quite evident from the start of the toxicity and ulceration that antibiotics seemed to have little limiting effect on the progress of the pyoderma gangrenosum. It will be recalled that from her first postoperative day this patient received antibiotics to which the bacteria cultured from the wound were sensitive. This had little effect on the progress of the pyodermic condition. It was not until cortisone therapy was instituted that improvement was noted, and this quite dramatically. Also, when the triamcinolone was reduced to 4 mg. daily, the activity of the pyoderma seemed to start again, as evidenced by bluish, raised, and undermined edges of the ulcer with associated odorous dis-

charge. Increasing the cortisone dosage immediately resulted in reversal of the process, and once again healthy granulation appeared in the ulcer area with loss of the raised and undermined edges of the ulcer. This supports Lever's suggestion that corticosteroids have beneficial effect in the treatment of pyoderma gangrenosum. Also, rather than infectious in origin, this condition probably represents an antigen-antibody reaction. The lack of effectiveness of several antibiotics in this case plus the dramatic reaction of our patient to corticosteroids would support this thesis. This is also supported by Long *et al* in their paper on two reported cases of pyoderma gangrenosum. In one case they stopped corticosteroid therapy after the ulcer had been skin grafted. A few days following this the healthy graft began to show evidence of ulcer formation and slough. This process reversed itself when corticosteroid was again instituted, and the grafts began to heal. Our case, as well as Long's, supports the importance of corticosteroid in the therapy of pyoderma gangrenosum. Both minimize the effectiveness of antibiotics. One is also impressed that bacteria are probably only secondary invaders in this pyodermic process. The multitude of bacteria cultured from these ulcers would support this thought.

The association of pyoderma gangrenosum with secondary debilitating states is interesting. After reading the literature, one is impressed with the number of cases of pyoderma gangrenosum that are associated with chronic ulcerative colitis. Four of the five cases reported by Brunsting, Goeckerman, and O'Leary were associated with chronic ulcerative colitis. One of Long's cases had had ulcerative colitis. The eventual healing of these ulcers probably depends greatly on the nutritional state of the patient. Improved nutrition with resultant improved healing aids in clearing these ulcers. The role of the steroids appears to be an important one.

Comment

It is likely that the skin condition now designated pyoderma gangrenosum has been present and observed for a great many years. No doubt it has been reported in the literature under other descriptive names. Brunsting, Goeckerman, and O'Leary, in 1930, first gave the name of pyoderma gangrenosum to the condition. They reported five cases, four of them associated with chronic ulcerative colitis. In their review of the literature, they felt the confusion in nomenclature probably was responsible for the lack of recorded cases. In spite of this, the condition is a rare one. It was their feeling that the first reported case fitting the description of pyoderma gangrenosum was made by Crocker in 1887. He designated the condition dermatitis gangrenosum.

Various authors suggest the incidence of this condition in chronic ulcerative colitis to range from 1.9 to 9 per cent. Some authors suggest that the condition of pyoderma gangrenosum may be the skin manifestation of the same etiologic agent which is responsible for the ulcerous condition of the colon in chronic ulcerative colitis. Marzoles and Wegner reported two cases of stomal ulceration associated with pyoderma gangrenosum and chronic ulcerative colitis, suggesting the condition to be a generalized one of all body tissue. This would somewhat support the thesis of antigen-antibody response in the debilitated patient.

In our case it was interesting to observe that whenever an attempt was made to reduce the corticosteroid, the pyodermic condition immediately flared up. Conversely, when the steroid was increased, the skin began to immediately heal, odor and discharge decreased and granulations took on a healthier appearance. The perineal sinus promptly ceased discharging and showed evidence of healing. Steroid could be discontinued only after the debilitated patient had re-established a healthy physiology and regained considerable weight. This presents the problem of prolonged corticosteroid therapy with its undesirable side effects, as shown in our patient by facial hirsutism and fluid retention. This became evident between four and five months after colectomy with continued cortisone therapy. However, it is apparent that this patient probably could not have survived without this therapy. Antibiotic therapy appeared to play little part in the control of this condition, although it was used.

Review of the literature reveals no definite etiology. Ulcers were treated with every type of soak from formalin, to iodine, to antibiotic soaks. All received the panorama of chemotherapeutics and antibiotics as they became available. Some authors felt that penicillin and antibiotics helped control the spread of the ulcers. It was the general opinion, however, that other than cleaning up superimposed bacterial infection, these added little to healing of the ulcer or control of its spread.

In early reports, complete excision of the ulcers by knife or cautery, if done widely enough, seemed to limit extension of the ulcers. With the advent of the corticosteroids, for the first time there appeared a drug that controlled the spread of the ulcers and produced healing. This strongly suggests the allergic basis of this condition, and the probable immunological response of the body in the etiology of this condition. The good effects from cortisone far outweigh the undesirable side effects.

In the earlier literature it was found that the subcutaneous injection of typhoid and milk seemed to

have some beneficial effect. This would support the antigen-antibody concept the cause of this disease.

References

1. Fergusson, A. G.: Pyoderma gangrenosum. *Brit. J. Derm.*, 74:197-8, May, 1962.
2. Marzoles, J. S., and Wenger, J.: Stomal ulceration associated with pyoderma gangrenosum and chronic ulcerative colitis. Report of two cases. *Gastroenterology*, 41:594-8.
3. Duprey, A., Jacobs, E., and Achten, G.: Severe gangrenous pyodermatitis during hemorrhagic chronic colitis. *Lyon Chir.* 57:608-13, July, 1961.
4. Sarazene, G., and Carlesino, O.: Pyoderma gangrenosum during non-specific ulcerative colitis. *Progr. Med. (Nap)*, 17:206-10, Mar. 31, 1961. (It.)
5. Solano, E., Hernandez, and Asch, V. M.: Gangrenous pyoderma. *Rev. Med. Costa Rica*, 18:183-8, May, 1961. (Sp.)
6. Hofstad, T.: Pyoderma gangrenosum, a case report. *Acta Dermatovenereol.* 39:481-7, 1959. (Stockh.)
7. Martindale, V. H.: A case of pyoderma gangrenosum. *Practitioner*, 185:95-8, July, 1960.
8. Muende, I.: Pyoderma gangrenosum. *Proc. Roy. Soc. Med.*, 53:296-7, Apr., 1960.
9. Sutton, Richard L.: *Diseases of the Skin*, 11th Edition, C. V. Mosby Co., St. Louis, 1956, pg. 296-7.
10. Lewis, Geo. M.: *Practical Dermatology*, 2nd Ed., W. B. Saunders, Co., 1959, pg. 108.
11. Andrews, G. C.: *Diseases of the Skin*, W. B. Saunders Co., 1954, pg. 253.
12. Lever, W. F.: *Histopathology of the Skin*, 3rd Ed., J. B. Lippincott Co., 1961.
13. Schmidt, F. R.: *Dermatology and Mycology*, Chas. C Thomas Pub., 1956.
14. Brunsting, L. A., Goeckerman, S. H., and O'Leary, P. A.: Pyoderma (Ecthyma) gangrenosum. *Arch. Derm. (Chicago)*, 22:655-680, Oct., 1930.
15. Long, P. I., and Vesu, C. T.: Pyoderma gangrenosum. *JAMA*, 187, Feb. 1964, pg. 336-339.

INSTANT ACNE FROM HAIR SPRAY

All patients with acne and thinning hair (alopecia) should stop using hair spray entirely and other users should wear a cosmetic mask when spraying, advises Dr. Kenneth G. Baker of Tucson, Arizona. These sprays have a definite relationship to periodic flareups of acne among girls 20 and younger, and to frontal hair thinning among young women in their mid-20s, he believes. Furthermore, hair spray-induced acne does not respond to conventional treatment for acne vulgaris, he reported at the North American Clinical Dermatologic Society meeting. He first suspected the relationship between hair sprays and dermatologic ailments during the holiday season of 1962—the heyday of the towering beehive coiffures, which had to be teased and sprayed into place. In correspondence with the Food and Drug Administration, Dr. John M. Gowdy informed him that "paraphenylenediamine and thioglycolates are very commonly involved. Hair sprays contain Freon, methyl alcohol and acetone, which may produce chemical-type skin irritations if accidentally sprayed directly on the skin or into the eyes."—*Medical World News*, May 22, 1964.

Treatment for Retardates

Evaluation of the Severely and Profoundly Mentally Retarded Children

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IN THE PAST DECADE mental retardation has been recognized as one of the major medical-social problems in the United States. The special panel appointed by our late President, John F. Kennedy, reports that there are approximately 5.4 million mentally retarded persons in the nation and that about 400,000 of them need to be institutionalized.¹ If we take the population of Kansas as one per cent of the national population, we would have approximately 54,000 mentally retarded Kansans with 4,000 requiring institutionalization. There are at present three institutions in Kansas offering such service: The Winfield State Hospital and Training Center at Winfield with 842 beds; the Parsons State Hospital and Training Center at Parsons with 628 beds; and the Kansas Neurological Institute at Topeka with 400 beds, a total combined bed capacity of about 1,870. This probably, at least partially, explains the presence of several hundred children waiting to enter one of the three hospitals. It is imperative that we physicians re-evaluate our philosophy and practice in the treatment of the mentally retarded, particularly the severely and profoundly retarded children.

Criteria for Recommending Institutionalization

As a general principle, institutionalization of an infant should not be considered. In the past, physicians have often recommended institutionalization of infants suffering from mongolism, severe cerebral palsy or other gross brain damages, upon recognition of such pathology immediately after birth "to avoid further parental investment," or "to put him away immediately before you get attached to him so you can forget him more easily." Disregarding the fact that parental investment in a child dates back long before his birth, or even before conception, it is highly improbable that such practice of early separation will help to resolve various parental feelings of anger, fear, resentment, rejection, guilt, etc. in connection with giving birth to an abnormal child. Such emotional turmoil can easily disturb the parental re-

lationship with their other normal children, other family members or even other activities not associated with the children. The normal children will certainly sense their parents' tension, guilt and the various other emotional upsets and may try to explain the situation with all kinds of fantasies; such as abandonment as a punishment for misbehavior which may some day

Treatment planning for infant or young mentally retarded children generally should not include institutionalization. Outpatient evaluation with planning for treatment in home environment is more desirable.

happen to them. The normal children's "embarrassment" may be less destructive than the pathological anxiety of being abandoned. However, it is very true that parental investment in a retarded child is costly and often gives little return in gratification for the parents. It may be more sensible for the physician and allied professional person to assist such parents to face realistically their problem of having a retarded child in the family.

It is generally accepted that early separation of mother and infant is definitely damaging to the child. From our experience with normally intelligent children institutionalized early in orphanages or foundling homes, we have learned that such children often have reduced resistance against the usual childhood infectious diseases, retarded development in motor skill and language, and variously impaired relationships with peers and other persons.²⁻⁴ On the other hand, mentally retarded mongoloid children reared in their natural homes learned to walk and talk earlier with better motor coordination and clearer verbal expression, when compared with mongoloid children raised in public institutions and even foster homes.^{5, 6} It is understandable psychologically that every individual, especially an infant, requires something to live for. The lack of this natural mother-child relationship or love seems to take away whatever desire to improve himself or even to live, from the infant

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Part I of two papers. Part II will be published in the October issue of the JOURNAL.

or child reared in institutions. Infants, cared for by their natural mothers who were incarcerated in jails because of anti-social behavior, showed higher developmental potential as compared to infants reared by medically oriented, trained nurses and nurses' aides in a well-kept, sanitary and medically supervised foundling home. This personal warmth and care is even more necessary for the severely and profoundly retarded children who are handicapped by their limited physical and intellectual endowment. It is extremely important that they should be given the optimum environment to enable them to develop whatever limited potential they possess.

Most state schools are oriented towards special education and training for the so-called "educables" who earn an I.Q. on standardized psychological testing between 60 and 75 and the "trainables" who earn an I.Q. between 40 and 60. The mild and moderate mentally retarded individuals, the "educables" and the "trainables" raised in institutions often have difficulty in dealing with their dependency drive. Some of them become overly dependent and submissive, and some others become rebellious and thus denounce their dependency needs. It is not infrequent to find institution-raised retarded individuals who have been well trained in semi-skilled occupations and yet unable to hold jobs in the community. Some of them do not know how to use their spare time and feel insecure beyond the walls of an institution. Others feel the community owes them everything and are unable to adjust themselves to their supervisors and peers. Still others continually present disciplinary problems within the institution, and behave antisocially in the community. Apparently the skills they learn are not sufficient to sustain them in the community. Such emotional disturbances frequently reduce or inhibit the intellectual capabilities of the institutionalized, mildly and moderately retarded individuals. Consequently, they function below their potential capacity. The same emotional disturbance could have similar effect on the severely and profoundly retarded individuals following long term institutionalization. This does not mean that institutional care and treatment should never be considered for the mentally retarded individuals. It emphasizes the disadvantage and potential danger of institutionalization, the recommendation of which should not be undertaken too lightly.

The Expert Committee on Mental Retardation of the World Health Organization clearly states that no retarded individual should be institutionalized solely in order to get an education. Our public school system has gradually and increasingly established special classes in elementary as well as junior high schools. In Kansas there were less than 50 such special classes

in 1960, largely for the "educables." There are today almost 200 such special classes for the "educables" and a few "trainables." In the foreseeable future the state schools for the mentally retarded will discharge a majority of their "educable" and "trainable" and enroll them in the special classes in the public school system and will then be left with only those severely and profoundly retarded individuals. In the past the state schools have had very little provision besides "custodial care" for these severely and profoundly retarded individuals. It is our responsibility to devise and plan a treatment program and goal for the severely and profoundly retarded children.

The Evaluation

The evaluation of retarded children often has been rather irregular and inadequate, which leads to haphazard recommendations. The family physician may find evidence of brain damage or the physical characteristics of mongolism, or of other known clinical syndromes associated with mental retardation. The parents may find that the child is less intelligent or skillful than his siblings. The school teacher may find the child to be "dull" or a "slow learner." The school psychologist may find that the child earns an I.Q. under 75 upon standardized testing. Each and every one of these people may recommend the institutionalization of this child, or in a number of states he may be adjudged incompetent because of mental retardation, and committed by a court to a state institution. Many existing state institutions in the country have no full-time medical staff trained in the specialties allied to mental retardation; namely pediatrics, pediatric neurology, child psychiatry, or general neuropsychiatry. Once admitted into such a state institution, it may take weeks, sometimes months, and even years before the child is carefully and thoroughly evaluated. This situation is really unavoidable when institutions built for the purpose of educating the "educable" and "trainable" retarded children are given the responsibility of treating the profoundly and severely retarded children, a majority of whom have serious medical problems.

Hospitalization of normally intelligent children and separation from their mothers for a short period of days or a few weeks, often result in changes in their behavior and probably also personality. This is equally true, and often more so, with mentally retarded children, irrespective of the severity of their retardation. Some children become "clinging babies," apparently as an expression of fear of being deserted. Some children become detached for they are afraid to re-establish close human relations. Some children sit in the corner, away from people, and sulk in being deserted. The mentally retarded children are doubly

handicapped because their limited mental capability makes it even more difficult for them to understand the total, real situation. Therefore, a child should not be institutionalized and separated from his mother just to find out if he is mentally retarded, and if he should be institutionalized for being retarded. All such evaluations should be done in an outpatient clinic, with living quarters for the child and his parents who come from out of the city.

The evaluation should be done by a team consisting of a physician, a psychiatrist, a neurologist, a psychologist, a social worker, and readily available consultants in other specialties; such as orthopedist, neurosurgeon, ophthalmologist, otolaryngologist, etc. It is important to have a complete, thorough, and careful evaluation of the total child, his assets as well as his liabilities, not forgetting that physicians traditionally emphasize liabilities and overlook assets. It is equally important to evaluate the child's environment, primarily his parents and their feelings, attitudes and reactions towards having a retarded child. This should be done by a trained psychiatric social worker, who will also provide the team with knowledge about facilities available in the child's community for special education and training classes, sheltered workshops, vocational rehabilitation, etc. The same social worker could serve as a liaison between the evaluating team and the community in which the child lives, in order to follow through with whatever recommendation is made as a result of the evaluation. This will insure the execution of the recommendation and follow-up with the re-evaluation of the feasibility and practicality of the recommendations.

The findings obtained during the evaluation should be carefully explained to the parents in readily understandable terms and the recommendations derived from the evaluation should be thoroughly discussed with the parents. This will allow the parents to take part in whatever decision arrived at in regard to the treatment and care of the retarded child. Instead of advising the parents to put the retarded child away in a state institution and "out of their lives," the physician, assisted by the social worker, should help the parents to work through their intense and often conflicting feelings associated with having a retarded child. These evaluation procedures are necessary for parents of the severely and profoundly retarded children as well as for parents of less severely retarded children. The work of the social worker is usually more difficult, but definitely more important, in cases where the child is more severely retarded, because parents of these children often have more serious emotional problems.

The Admission

The admission of all retarded children into an institution should be oriented towards treatment. This is true of even the severely and profoundly retarded children who are generally considered untrainable. Their admission into a state institution has usually been relegated to only "custodial care" and unworthy of treatment consideration. If "custodial care" is ostensibly the goal, then the retarded child should be cared for in a foster home, boarding home, or nursing home where the child will still maintain one-to-one relationship with an adult mother-substitute. This is also a much more economical way compared to admission into a state institution where many skilled professional personnel are employed.

Severely and profoundly retarded children who, in addition, are multiple-handicapped, including emotional as well as various physical handicaps; and who have had the opportunity of developing a meaningful mother-child relationship in a warm family environment; and who are unable to utilize available special classes in public school system, may be considered for admission to a state institution for retarded children.

Many states have only provisions for the "educables" in special classes in the public school system. Many areas, like our western Kansas, are so scarcely populated, it is not feasible or practical to have special classes in their small public school systems. In such instances, admission to a state institution may be permissible for the higher functioning retarded children.

Admissions to a state institution for the retarded children should always be an elective and well prepared procedure. Mental retardation is a life-long process and is rarely an acute emergency condition. Mentally retarded children with severe emotional, psychotic or behavioral problems do not develop such problems overnight. The child, as well as the parents, should be adequately prepared for this important event of institutionalization. No retarded child should be taken to an institution under the false pretense of "going on a trip" or "going for a visit." No retarded child should be left at the hospital admission office and the parents quickly "sneak away." In turn, the institution should not force itself on the child and the parents to quickly accept institutionalization, although the latter may be the best temporary solution. Admission can best be accomplished by several visits to the institution for the child to get acquainted with the child-care workers and a few playmates, and for the parents to learn to know the personnel who will be taking care of their child.

Summary and Conclusions

1. In general, institutionalization of a retarded in-

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Vocational Rehabilitation Unit

A Program of Evaluation and Training for the Mentally Retarded Adult

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FOR MANY YEARS, vocational rehabilitation services for the mentally retarded of Kansas have lagged behind those for individuals in other disability groups. Prior to 1958, the Kansas Division of Vocational Rehabilitation of the State Board for Vocational Education was legally authorized to provide services only to the physically disabled. However, during the last decade, there has been a steadily increasing recognition of the rehabilitation needs of persons with mental handicaps.

In 1958, the Kansas Division of Vocational Rehabilitation obtained legislative approval for a special project, which involved one additional vocational rehabilitation counselor, to work with mentally retarded patients at the Parsons State Hospital. During the two-year course of this project, numerous institutional patients were placed on jobs throughout the state, thereby demonstrating that certain mentally retarded persons can be successfully placed in employment in the community. The project also demonstrated that a more intensive and comprehensive program of rehabilitation services would be needed if mentally retarded people are to be adequately prepared for successful employment. This program would include a vocational evaluation program, training, job placement, and intensive follow-up services.

In 1960, the State Legislature granted authority and funds to the DVR for establishing and operating a Vocational Rehabilitation Unit (VRU) for mentally retarded men and women aged 16 years and over. Plans called for the VRU to be located in Topeka on the grounds of the Kansas Neurological Institute, which was then a newly-established hospital for the mentally retarded.

Ten buildings were set aside on the Kansas Neurological Institute grounds for the VRU. Five of these buildings are used as cottages in which the clients reside. The remaining buildings are used for classroom and workshop areas for evaluation and training and for office space.

The major objectives of the VRU are to: (1) evaluate the occupational, social, and emotional adequacy of the mentally retarded in a work situation; (2) provide an environment conducive to the de-

velopment of physical endurance, work tolerance, and the psychosocial adjustment necessary for employment; (3) provide vocational training and personal adjustment training preparatory to employment; and (4) provide the job placement and follow-up services necessary to establish the mentally retarded as

The Vocational Rehabilitation Unit has begun to meet a long-existing need for rehabilitation services for the mentally retarded. During the first four years of the program, numerous patients have been placed on jobs throughout the state, thereby demonstrating that certain mentally retarded persons can be successfully placed in employment.

self-supporting citizens in the community. As this type of special program is relatively new, the VRU is a setting in which research programs can be undertaken on many aspects of vocational rehabilitation work with the retarded. It is expected that formal and informal research projects will be conducted with increasing frequency in the future.

Basic Program

When a mentally retarded client is first admitted into the VRU, he undergoes an evaluation designed to determine his present level of social-vocational functioning. He engages in several kinds of work activity; and such features as specific vocational strengths and weaknesses, work habits and attitudes, ability to get along with supervisors, and interpersonal relationships with co-workers are observed. Psychological tests can be performed by the staff psychologist as needed. This initial evaluation is normally of eight weeks' duration.

At the end of the evaluation, further services are given to those clients having employment potential. Services usually include training designed to develop and improve specific work skills, work habits and attitudes, and personal and social skills needed to get along in community living. Training in most

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instances is provided within the VRU. If training that cannot be offered within the VRU is desired, arrangements are made to secure it through outside sources such as vocational schools or employers who are willing to participate in on-the-job training programs. Funds from the VRU budget can be used to purchase such training if the client or his family is unable to bear the cost.

Six types of work activity—woodworking, automobile maintenance, painting, janitor work, laundry work, and kitchen work—are offered at the VRU. These are the areas in which clients are tried during the evaluation period and in which they can be given further training afterward. Each area is supervised by a teacher who has had training in special education of the mentally retarded.

Throughout his stay at the VRU, each client is seen regularly by a vocational rehabilitation counselor, who attempts to stimulate his vocational thinking and help him develop a realistic vocational plan. When necessary in difficult situations, psychiatric social workers on the staff work with the client's family to plan for the training and future placement of the client. When the client is sufficiently trained and otherwise prepared for employment, the counselors and social workers assume the responsibility of finding a suitable job for him and a suitable place for him to live in the community. After a client has moved and is living and working in the community, these staff members provide the follow-up service necessary to help him make an adequate adjustment to his job and to his living situation during nonworking hours.

Medical Services

Before a client can be admitted to the VRU, a complete pre-admission physical examination is required. This must be performed by a qualified physician and recorded on a standard form. Up to the present time, this has been complemented by an admission physical examination furnished by the Kansas Neurological Institute. An effort is made to determine the health of the client and to continue to provide him with any medication and other medical services which he has required in the past. While clients are in residence, medical services are provided from the Kansas Neurological Institute. Any medical or dental services not available there are obtained from outside sources. Funds from the VRU budget are used for such services when the client's family is unable to pay.

A medical consultant visits the VRU weekly and assists in a number of functions. All applications for admission are reviewed, and an opinion is given regarding medical feasibility, need for further examinations, or need for corrective treatment. Help is

also given with the medical aspects of day-to-day management, including the use or modification of anticonvulsant medication, decisions about special examinations or treatment during residence, and help in determining long-range needs and abilities. As each client becomes ready for employment in the community, a medical summary is prepared. When the client is placed in the community, he is helped to select his own physician; and the medical summary is furnished to the physician in order to rapidly acquaint him with the client's health and needs. From time to time, the medical consultant participates in staff conferences to discuss individual cases more completely.

A psychiatric consultant also visits the VRU regularly. He reviews with the staff cases of clients having significant emotional disorders and advises as to treatment needs and methods of working with the client.

Referral Procedure

Mentally retarded persons are referred to the VRU in either of the two following ways:

1. Those who are patients in the three state institutions for mentally retarded are referred directly by the professional staff members of those institutions.
2. Those not in the state institutions for mentally retarded are referred through one of the nine district offices of the DVR.

In every case, the final decision as to whether or not a person is admitted is made by the staff of the VRU.

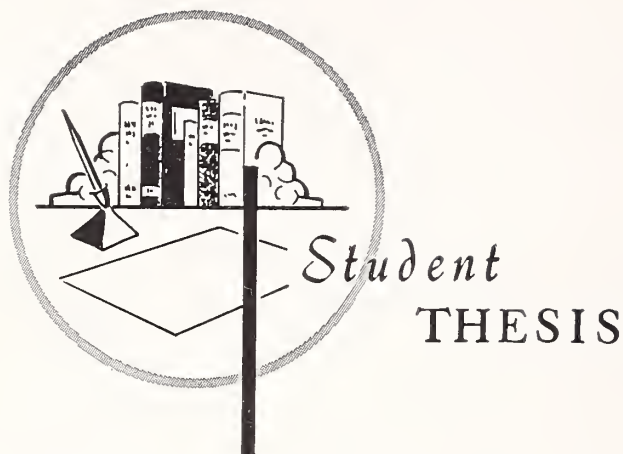
A fee is charged for certain services provided within the VRU. The rate charged is determined by a sliding scale based upon the ability of the client's family to pay. Financial standards of the Kansas Division of Vocational Rehabilitation are used in determining ability to pay. Experience has shown that in about 20 per cent of all cases admitted the family is able to contribute financially toward the cost of the client's rehabilitation.

The VRU is not intended to be a facility for the long-term care and custody of the mentally retarded. Rather, it is expected that when a client enters the program he will make fairly consistent and noticeable progress toward the goal of becoming ready for employment. A client may be dismissed from the program at any time it becomes obvious he is not equipped to attain this goal.

Results

The first clients were admitted to the VRU on January 23, 1961. During the first four years of the program's operation, a total of 400 clients were ad-

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Ventilatory Changes After Tracheostomy in Dogs

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THE INDICATIONS for and advocates of tracheostomy have been increasing over the years until it now has a firm place in our armamentarium for the care of patients. The effects of tracheostomy fall into two main categories: mechanical and physiological. Included in the former is the increased facility with which tracheobronchial secretions can be removed and the enhanced ease with which various laryngeal obstructions can be relieved. This is the category with which everyone is most familiar. It is the physiological category which is most often overlooked and with which the present article is concerned.

In the physiological category the benefits are, for the most part, twofold: (1) a reduction of dead space, and (2) a reduction of airway resistance. A reduction of dead space permits a more efficient utilization of the tidal volume. There are many instances in which the tidal volume has been compromised. In such cases a reduction in the dead space permits a patient with a decreased tidal volume to maintain adequate alveolar ventilation where otherwise he often cannot. In humans tracheostomy will reduce the dead space by one half to one third. The effort of respiration should be diminished to some extent by tracheostomy because the resistance of the upper airway is eliminated. In humans 29 per cent of the

total work of inspiration is due to airway resistance. The resistance of the upper airway (larynx and mouth) has been found at low rates of flow to be 15-20 per cent and at high rates of flow to be 35-40 per cent of the total respiratory resistance (airways, lungs, and thorax). These findings give strong support to the idea that a tracheostomy would significantly reduce the energy cost of respiration.

The purpose of the present work was to demonstrate just what measurable effects tracheostomy would have on respiratory rate, oxygen consumption, tidal volume, minute volume, and "oxygen respiratory equivalent" (to be defined later in this article).

Materials and Methods

The subjects were ten anesthetized dogs weighing between 13.25 and 16.25 Kg. Measurements of oxygen consumption, tidal volume, and respiratory rate were obtained on each dog by means of the McKesson Waterless Metabolor No. 185 (McKesson Appliance Co., Toledo, Ohio). This is essentially an oxygen filled, waterless spirometer which includes a soda lime canister for absorption of expired CO_2 .

A mask for the dog's muzzle was devised following a design similar to that of Reeves. A Lucite cylinder 10 cm. long and having an internal diameter of 7 cm. was closed at one end except for the attachment of a 7 cm. Lucite tube with a 19 mm. internal diameter. The latter was open and served to connect the cylinder to the spirometer. Using ordinary modeling clay, inside portions of the sides and end of the

* This is one of a group of theses written by fourth year students at the University of Kansas School of Medicine, selected for publication by the Editorial Board from a group judged to be the best by the faculty at the school. Dr. Stiles is now a resident in the Department of Internal Medicine at the University of Kansas Medical Center.

cylinder were packed in a manner so as to very closely conform to the shape of the dog's muzzle. In this manner the dead space added by the mask was decreased to less than 40 cc. A closed system between the dog's muzzle and the spirometer was effected in the following manner. The ends of 24 cm. lengths of $\frac{7}{8}$ " penrose tubing were cemented together and a length of small diameter rubber tubing was cemented into the side in such a way as to permit the inflation of these doughnut-shaped balloons. Two of these balloons were placed around the dog's muzzle in serial fashion. The cylinder mask was placed over the muzzle and over the balloons. The latter could then be inflated by means of the small diameter rubber tubing and a 50 cc. syringe. When expanded the balloons made an airtight seal by fitting snugly against both the cylinder and the dog's muzzle.

Tracheal cannulae used were 10 cm. lengths of glass tubing with a 45° bend at mid-length. The internal diameter varied from 8-14 mm. and as large a cannula as possible was used on each dog. The dead space added by these cannulae was less than 10 cc.

All ten dogs were initially anesthetized with Pentobarbital sodium (*Nembutal*®, Abbott) using approximately 30 mg/kg of body weight. A power driven, constant infusion instrument designed and constructed at the University of Kansas Medical Center was used to provide a constant Nembutal infusion on dogs numbers five through ten. On the latter dogs, after the same initial anesthetic dose of Nembutal, a cutdown was performed over the femoral vein. The infusion pump was connected to this vein and driven at a rate so as to provide distilled water diluted Nembutal at approximately 5-6 mg/kg/hr. There was no overloading of the vascular system since a total of only 25-35 cc. of extra fluid was given to any one dog by this route.

After the dogs had been anesthetized and the mask fitted, an incision was made low on the dog's neck over the trachea. The trachea was dissected out and a length of umbilical tape slipped under it. This procedure was done at this time in order to prepare the trachea for a quick and atraumatic incision of the trachea and insertion of a tracheal cannula at the appropriate time.

The dogs were all turned to lie supine and on their right side. Care was taken to keep the extension of the dog's jaws at a physiological angle and constant from one dog to another.

The mask tube was then connected to the spirometer and the testing begun. To wash the nitrogen out of the lungs each dog breathed 100 per cent oxygen from the spirometer for five minutes. This was to make reasonably sure that the oxygen tension in the lungs did not change appreciably during the

experiment because of nitrogen present in the lungs. After this initial five minutes, the tracing was started and run for five minutes. The animal was finally permitted to breathe room air for a final five minutes before another test was run. This was to minimize the effects of constant oxygen inhalation.

After two to three tracings had been obtained by the mask, the dog was disconnected from the spirometer. An incision was made in the trachea and an appropriate size cannula was inserted and tied in place with the umbilical tape. This procedure took 7-10 minutes. The tracheal cannula was connected to the spirometer and tracings were then obtained in a manner identical to that described above.

From the tracings values could be obtained for the oxygen consumption, tidal volume, and respiratory rate. Minute volume was calculated by multiplying tidal volume times respiratory rate. The "oxygen respiratory equivalent" was calculated by dividing the minute volume in cubic centimeters of oxygen per minute by the oxygen consumed in cubic centimeters per minute. This is a modification of the "respiratory equivalent" and "specific ventilation" often used. These two terms differ mainly from the "oxygen respiratory equivalent" in that the minute volume is in cubic centimeters of *air* per minute rather than *oxygen*.

Atmospheric pressure and spirometer bellows temperature were obtained from an aneroid manometer and a thermometer built into the spirometer. Instructions accompanying this particular instrument indicate that in this bellows the aqueous vapor saturation is 80 per cent. Using factors obtained from a standard handbook, the tidal volume and oxygen consumption were corrected to STPD.

Results

The results are shown in Tables 1-5. A word about the effect of anesthesia is in order before some of the other results are examined. By looking at Table 3, columns 1-3, dogs one through four, it is clear that for the most part the tidal volume tended to increase as time passed and the anesthesia became lighter. Three or four trials were run on each dog after the tracheostomy was performed; although only the values for the first trial after the tracheostomy are included in the data reported here. These further trials after the tracheostomy also showed a tendency for tidal volume to increase as the anesthesia grew lighter. It was for this reason that a constant infusion of Pentobarbital sodium was used on dogs five through ten. This greatly slowed the increase in tidal volume caused by recovery from anesthesia. It was felt that this effect of anesthesia could best be taken into account by comparing not simply the values just before and just after tracheostomy, but

TABLE 1
OXYGEN CONSUMPTION

Dog	1	2	3	4	5	6	7	8
1	—	85	90	117	+5	+27	-18	130
2	86	86	91	86	+3	- 5	+ 8	95
3	86	88	90	111	+2	+21	-19	123
4	88	81	88	100	0	+12	-12	114
5	80	80	72	93	-4	-21	+17	129
6	63	60	60	55	-2	- 5	+ 3	92
7	69	58	55	49	-7	- 6	- 1	89
8	82	77	79	84	-2	+ 5	- 7	106
9	—	85	82	92	-3	+10	-13	113
10	—	85	85	99	0	+14	-14	116

Columns 1, 2, and 3 = Oxygen consumption in cc/min for the first, second, and third trials, respectively, prior to tracheostomy.

Column 4 = Oxygen consumption in cc/min for the first trial after tracheostomy.

Column 5 =
$$\frac{(\text{Col. 1} - \text{Col. 2}) + (\text{Col. 2} - \text{Col. 3})}{2}$$

= Average difference between the trials prior to tracheostomy.

Column 6 = Col. 3 - Col. 4 = Difference between the trial prior to tracheostomy and trial just after tracheostomy.

Column 7 = Col. 5 - Col. 6 = Difference between the differences before and after tracheostomy.

Column 8 = Col. 4 \times 100/Col. 3 = Percentage that the trial after tracheostomy was of the trial prior to tracheostomy.

"p" value for oxygen consumption after application of the Fisher t test to column 7 is greater than 0.171.

rather by getting the average of the difference between the values just before and just after tracheostomy.

The p values of columns 7 of Tables 1 and 2 show that there was no significant difference in the oxygen consumption or respiratory rate before and after tracheostomy. The p values of columns 7 of Tables 3-5 for tidal volume, minute volume, and "oxygen respiratory equivalent" show very significant difference in these parameters.

Table 3, column 7, shows a decrease in tidal volume after tracheostomy in seven of ten dogs. Table 4, column 7, shows that all dogs showed a decrease in minute volume. The "oxygen respiratory equivalent" showed a consistent decrease after tracheostomy as seen in Table 5, column 7. Column 8 of Table 3 shows for tidal volume the percentage that the trial after tracheostomy was of the trial before tracheostomy. Columns 8 of Tables 4 and 5 show similar calculation for minute volume and "oxygen respiratory equivalent," respectively. It can be seen that with few exceptions the values for each of these parameters are less after tracheostomy than before.

Discussion

Addition of dead space leads to an increase in tidal

TABLE 2
RESPIRATORY RATE

Dog	1	2	3	4	5	6	7	8
1	—	25	24	28	-1.0	+ 4	- 5.0	117
2	20	22	19	9	-0.5	-10	+10.5	47
3	18	16	19	21	+0.5	+ 2	- 1.5	111
4	8	9	11	10	+1.5	- 1	+ 2.5	91
5	9	9	9	7	0	- 2	+ 2.0	78
6	8	11	11	11	+1.5	0	+ 1.5	100
7	9	10	10	9	+0.5	- 1	+ 1.5	90
8	9	6	9	6	0	- 3	+ 3.0	67
9	—	9	9	7	0	- 2	+ 2.0	78
10	—	9	11	10	+2.0	- 1	+ 3.0	91

Columns 1-4 are in respirations per minute.

See legend of table 1 for explanation of columns.

"p" value for respiratory rate is greater than 0.144.

volume and minute volume. The present work demonstrates that a reduction of dead space produces the opposite effect. Blakemore and Tyler also report that tracheostomy leads to a decrease in tidal volume and minute volume. These studies were done under conditions quite different from the present one in that periods of days to weeks elapsed between the pre-and post-tracheostomy recordings.

Patients in respiratory difficulty often breathe rapidly and at higher than normal rates of flow. Under these conditions the air resistance becomes an increasingly important factor in the work of breathing since resistance is flow dependent. In turbulent flow resistance is a function of the square of the flow. In man nine tenths of the area in which turbulence occurs is eliminated by tracheostomy. It is logical that under the conditions where patients are breathing at increased flow rates, a tracheostomy would cause

TABLE 3
TIDAL VOLUME

Dog	1	2	3	4	5	6	7	8
1	—	238	252	198	+14	-54	+68	79
2	148	161	201	222	+26	+27	- 1	113
3	268	268	281	214	+ 7	-67	+74	76
4	322	308	335	308	+ 6	-27	+33	92
5	254	307	307	254	+27	-53	+80	81
6	342	369	396	355	+27	-41	+68	90
7	247	261	247	275	0	+28	-28	111
8	395	436	381	368	- 7	-13	+ 6	97
9	—	273	273	273	0	0	0	100
10	—	232	232	204	0	-28	+28	88

Columns 1-4 are in cubic centimeters of oxygen.

See legend of table 1 for explanation of columns.

"p" value for tidal volume is less than 0.024.

TABLE 4
MINUTE VOLUME

TABLE 4										
MINUTE VOLUME										
Dog	1	2	3	4	5	6	7	8		
1	—	5950	6048	5544	+ 98	—	504	+ 602	92	
2	2960	3542	3819	2052	+429	—1767	+2196		54	
3	4824	4288	5339	4494	+258	—	845	+1103	84	
4	2576	2772	3685	3080	+554	—	605	+1159	84	
5	2286	2763	2763	1778	+238	—	985	+1223	64	
6	2736	4059	4356	3905	+810	—	451	+1261	90	
7	2223	2610	2470	2475	+123	+	5	+ 118	100	
8	3555	2616	3429	2208	—	63	—1221	+1158	64	
9	—	2457	2457	1911		0	—	546	+ 546	78
10	—	2088	2552	2040	+232	—	512	+ 774	80	

Columns 1-4 are in cc/min.
See legend of table 1 for explanation of columns.
"p" values for minute volume is less than 0.0005.

changes of a magnitude even greater than shown in the present study.

The results of this study are in agreement with Barnett that changes in dead space produced no significant change in respiratory rate. Tyler reported that tracheostomy led to a decrease in respiratory rate.

It is interesting to speculate about the implications this study has with respect to the mechanical work of breathing. Otis, Fenn and Rahn derived a formula for finding the mechanical work of breathing at different ventilations. Otis has simplified this to:

$$\dot{W} = a (\dot{V}_A^2/f + 2 \dot{V}_A V_D + fV_D^2) + b (\dot{V}_A + fV_D)^2 + c (\dot{V}_A + fV_D)^3$$

where \dot{W} = work rate or power requirement, a = elastance of the chest and lung, b and c = constants for nonelastic resistance of moving gas and of displacing tissues, f = rate of respiration, \dot{V}_A = alveolar ventilation, and V_D = dead space. In the present study dead space was decreased by tracheostomy and there was no change in the rate of respiration. If a , b , c , \dot{V}_A , and f remain constant while V_D is decreased, then \dot{W} must be decreased. It is readily admitted that no evidence is presented here that \dot{V}_A did remain unchanged, but Cullen's study indicates that alveolar ventilation tends to remain fairly constant before and after tracheostomy. Therefore, the above conclusion may have some reasonable validity. It is interesting to note that as recently as 1954 Riley failed to include tracheostomy in his list of therapeutic measures to reduce the work of breathing.

No change in oxygen consumption occurs with moderate increases in dead space or moderate increases in ventilation. However, Cournard showed an increase in oxygen consumption as ventilation was increased. Hence, it appears that larger changes in

TABLE 5
OXYGEN RESPIRATORY EQUIVALENT

TABLE 5								
OXYGEN RESPIRATORY EQUIVALENT								
Dog	1	2	3	4	5	6	7	8
1	—	70	67	47	— 3	—20	+17	70
2	34	41	42	24	+ 4	—18	+22	57
3	56	49	59	41	+ 2	—18	+20	69
4	29	34	42	31	+ 7	—11	+18	74
5	29	35	38	19	+ 4	—19	+23	50
6	43	68	73	71	+15	— 2	+17	97
7	32	45	45	51	+ 7	+ 6	+ 1	113
8	43	34	43	26	0	—17	+17	60
9	—	29	30	21	+ 1	— 9	+10	70
10	—	25	30	21	+ 5	— 9	+14	70

Columns 1-4 have no units. See text for derivation.
See legend of table 1 for explanation of columns.
"p" value for oxygen respiratory equivalent is less than 0.0005.

ventilation or dead space than were made in this study are required before these changes are reflected in changes in oxygen consumption. It was somewhat disappointing that no decrease in oxygen consumption was demonstrated here, since this would have fit very well with the idea that tracheostomy leads to a decrease of the work of breathing. Brownlee and Allbritten showed that anesthesia produced a decrease in compliance. Furthermore, Mead demonstrated that the compliance of the lungs of anesthetized dogs decreased with increasing duration of anesthesia. Perhaps this decrease in compliance played some role in causing animals in this experiment to continue to consume oxygen at a constant rate before and after tracheostomy. The decrease in compliance would necessitate more powerful contractions by the respiratory muscles and lead to an increasing oxygen consumption with increasing duration of anesthesia. This might have counteracted any decrease in oxygen consumption produced by the tracheostomy. No evidence is presented here to substantiate this, but it should be considered as a possibility. A more simple explanation would be that the method of measuring oxygen consumption used here was too crude to demonstrate any slight changes which may have occurred. Pending further investigation this must remain an inadequately answered question.

The "oxygen respiratory equivalent" was calculated as a reflection of efficiency, i.e., it permits a comparison of how much oxygen the dogs respired to consume one cubic centimeter of oxygen per minute before and after tracheostomy. As can be readily seen from Table 5, column 8 the dogs were more efficient after tracheostomy.

The implications of what has been shown in this report are clear from the previous discussion. Patients with a compromised tidal volume can more

effectively ventilate their alveoli with their tidal volume if a reduction is made in dead space. Furthermore, there is a benefit to patients whose tidal volume seems to be adequate but in whom even the effort of breathing is tiring. These patients, after tracheostomy, are permitted to maintain the same alveolar ventilation on reduced tidal volume and, therefore, less effort to breathe is required.

The analogy drawn here between these experimental dogs and patients in respiratory distress is not, strictly speaking, entirely correct. Patients in respiratory distress, unless unconscious, usually breathe through their mouth; whereas, these dogs were forced to breathe through their noses. In humans, nasal breathing instead of mouth breathing requires an increase in the total work of lung movement. In spite of this handicap imposed on the dogs in this experiment it was felt that this would not appreciably alter the data and, therefore, would have no effect on the conclusions drawn.

Further studies of this type are needed in both experimental animals and in humans to define more clearly just what can and cannot be accomplished by a tracheostomy. More refined and more precise measurements could be obtained by using analogue computers as described by Osborn, Badia, and Gerbode. Further parameters that could be measured by these computer methods before and after tracheostomy include flow, intrapleural pressure, mask and tracheal tube pressures, work of breathing, efficiency, and blood gas studies. Conditions could be varied so as to study results from breathing air rather than oxygen and the effects of oxygen-carbon dioxide mixtures.

EDITOR'S NOTE: References may be obtained by writing the JOURNAL, 315 West 4th Street, Topeka, Kansas 66603.

Treatment for Retardates

(Continued from page 425)

fant or young child should not be considered, because institutionalization tends to hinder or even to block the development of whatever little endowment the child still possesses, owing to the absence of a one-to-one, "mother-child" relationship.

2. To avoid separating a child from his mother, evaluation of a retarded child should be done in an outpatient clinic and not after admission into an institution.

3. The evaluation of a retarded child should not be limited to studies of his physical development and handicaps, intellectual capabilities, and emotional development. The evaluation should include a study of his immediate environment, his home, his parents and siblings.

References

1. The President's Panel on Mental Retardation: A Proposed Program for National Action to Combat Mental Retardation, October 1962.
2. Spitz, R. A.: Hospitalism: An inquiry into the genesis of psychiatric conditions in early childhood. *Psychoanalytic Study of the Child*, pp 53, 1945.
3. Lax, R. F.: Infantile deprivation and arrested ego development. *Psychoanalytic Quarterly*, 27:501, 1958.
4. Clarke, A. D. B. and Clarke, A. M.: Some recent advances in the study of early deprivation. *J. Child Psychology and Psychiatry*, 1:26, 1960-1961.
5. Kugel, R. B. and Reque, D.: A comparison of mongoloid children. *J.A.M.A.*, 175:959, 1961.
6. Centerwall, S. A. and Centerwall, W. R.: A study of children with mongolism reared in the home compared to those reared away from home. *Pediatrics*, 25:678, 1960.

Vocational Rehabilitation Unit

(Continued from page 427)

mitted. Of this total group, 207 had moved from the VRU to job placements throughout the state; and 145 clients had been dismissed from the program as nonfeasible for vocational rehabilitation services.

The Vocational Rehabilitation Unit has begun to meet a long-existing need for rehabilitation services for the retarded. Progress has been made in these early stages of development. The staff is continuing to try to learn more in order to change and expand the program to best achieve its goals.

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Sudden Severe Epigastric Pain, Vomiting and Shock in a Patient With Leukemia

THIS WAS THE FIRST and only KUMC admission for this 63-year-old white man, a retired school teacher from Missouri who died 18 hours after his admission.

While driving home to Missouri after a vacation in one of the western states, the patient suddenly experienced severe pain high in the epigastrium. He stopped the car, doubled up and vomited. He had someone else drive the car. He sought treatment in a private hospital where he was confined three days before being sent to the University of Kansas Medical Center. A copy of his records at the other hospital indicated that on admission he had a normal blood pressure, temperature, and pulse rate. He had pronounced abdominal tenderness at the time, and vomiting of a greenish material was a rather prominent symptom. He was treated with aluminum hydroxide gel, propantheline, meperidine and dimenhydrinate. Two days before his admission to this hospital he had a recorded temperature of 100° F. and a pulse rate of 100 per minute. A day before admission his temperature was 101.2° F. and his pulse rate was 140 per minute with a respiratory rate of 35 per minute. At the end of his third hospital day it was decided to transfer him to the University of Kansas Medical Center. During the trip to the medical center, which lasted about ten hours, he was described by his wife as able to walk and converse. Upon arrival here, however, he had a blood pressure of 60/40, a heart rate of 140 per minute, a respiratory rate of 50 per minute, and a temperature of 40.5° C. rectally.

Edited by Jesse D. Rising, M.D. and Mahlon Delp, M.D., from recordings of the proceedings of the conference participated in by the departments of medicine, pediatrics, surgery, radiology, gynecology and obstetrics, and pathology of the University of Kansas Medical Center as well as by the third- and fourth-year classes of students.

The patient had a six-year history of leukemia, and for that length of time he had received 5 mg. of prednisone daily.

Vital signs were as stated earlier. He was poorly responsive. His pupils were dilated and weakly reactive. The sclerae were not jaundiced. On examination of the optic fundi the discs were distinct. He had supraclavicular, cervical, axillary and inguinal adenopathy. He had vesicular breath sounds over both lung fields. There were no rales. The heart sounds were fairly audible. There were no murmurs or sound accentuations and the rhythm was regular. He had a distended and tympanitic abdomen, but the abdominal wall was not rigid. There was diffuse tenderness of the abdomen. Both the liver and the spleen were palpable. Bowel sounds were absent.

The pH of the urine was 4.5; specific gravity, 1.018; albumin, 2 plus; and sugar 3 per cent. The test for occult blood was positive and the urine contained numerous red blood cells, pus cells, spermatozoa and bacteria. The hematocrit was 54 per cent; hemoglobin, 17.6 gm.; white blood count, 23,300. A repeat white count was 108,000 with 7 per cent neutrophils (4 per cent filamented and 3 per cent non-filamented), 91 per cent lymphocytes, 1 per cent monocytes, and 1 per cent metamyelocytes. The serum sodium was 146 mEq.; potassium, 4 mEq.; carbon dioxide, 24.4 mEq.; chlorides, 92 mEq.; and calcium, 3.4 mEq. per liter. Serum albumin was 3.45 gm. per cent; globulin, 1.1 gm. per cent. Serum amylase by the rapid method was greater than 100 mg. per cent but less than 150 mg. per cent. Total bilirubin was 0.8 mg. per cent with 0.3 mg. per cent direct bilirubin. Serum alkaline phosphatase was 1.6 millimole units; transaminase, 27 millimole units.

On admission an immediate cut-down was done.

Blood was drawn for the various chemistries and for culture. Five per cent dextrose in water with penicillin and chloramphenicol were infused intravenously. He was catheterized, and a nasogastric tube was inserted and connected to a suction machine. Fifteen hundred milliliters of greenish dark material was initially aspirated. Vasopressor agents were used to maintain the blood pressure. The concentration of these agents was increased from time to time. On his tenth hospital hour the patient developed tetany of the hands and legs. Deterioration was rapid and a blood pressure could not be obtained, although he still had easily palpable peripheral arterial pulses and responded to some extent to pain and to calling him by name. The patient became cyanotic and abdominal distention became greater about his fifteenth hospital hour. Five minutes before death his respiration became much shallower, and it ceased altogether after one futile and weak effort to breathe. Auscultation revealed irregular heart sounds. The patient was pronounced dead after about 18 hours of hospitalization.

Dr. Mahlon Delp (moderator): Are there any questions for Dr. Escalante?

Martin Vancil (student):* Did this patient have a personal or family history of diabetes or cardiovascular diseases?

Dr. Dante Escalante (resident in medicine): There was no history of diabetes or cardiovascular disease.

Paul Rouse (student): Did he have a history of alcoholism, cholelithiasis or bowel dysfunction?

Dr. Escalante: He had no history of alcoholism. In 1956 he was admitted to a Veterans Administration Hospital, and x-rays at that time demonstrated gallstones.

John Wertzberger (student): Had he had similar bouts of pain in the past?

Dr. Delp: In one of the student's histories it states that two years before admission here he had an episode of severe upper abdominal pain associated with vomiting. Six months before being admitted here he had a similar episode. Neither of these was as serious as the present illness. They did not seem to be similar to it.

David Palmer (student): Was there any description of bowel movements after the initial insult, and, if so, were the stools bloody or melanotic?

Dr. Escalante: There was no description of bowel movement on the hospital record we got from New Mexico.

Carlos Kemper (student): Would you give us a better description of his first attack of pain and

whether the patient's position made any difference.

Dr. Escalante: The patient doubled up (this was on the road), and he stated that the doubling up was more comfortable than any other position.

Mr. Kemper: Was his pain sharp?

Dr. Escalante: Yes, it was a sharp pain.

Mr. Kemper: Did it radiate anywhere?

Dr. Escalante: No.

Mr. Vancil: Was there a fluid wave present on admission here, and did he have any rebound tenderness?

Dr. Escalante: I could not demonstrate a fluid wave. He had questionable rebound tenderness, but I am not very sure about this.

Gayle Kenoyer (student): Were there any rashes or discolorations on the skin anywhere, particularly around the umbilical area or in the flank?

Dr. Escalante: There might have been some icterus and some discoloration in the left flank.

William Toalson (student): Did this patient continue to vomit on his journey to the K.U. Medical Center, and were any fluids given during this trip?

Dr. Delp: On admission he was not vomiting. There were no fluids, no bottles, no needles.

Mr. Wertzberger: Was there increased fluid intake just before the onset of abdominal pain?

Dr. Delp: He had a breakfast of ham and eggs.

Mr. Kemper: Can you give us a better description of his respiration? Was it shallow or deep or regular?

Dr. Escalante: On admission I would say his respiration was deep.

Mr. Vancil: Can you give us a résumé of this man's corticoid therapy?

Dr. Escalante: He had had 5 mg. of prednisone a day for the past six years. His private physician had given him hydrocortisone for another year before that.

Mr. Vancil: I am referring specifically to his hospitalization.

Dr. Escalante: I believe he had 200 mg. of hydrocortisone.

Mr. Palmer: Was a rectal exam done, and if so what were the findings? Specifically, was there any blood in the rectum?

Dr. Escalante: No.

Mr. Rouse: Was there any fecal or bloody vomitus noted on his admission here?

Dr. Escalante: No. It was a greenish-gray.

Miss Kenoyer: Did he have chills at any time?

Dr. Delp: No chills.

Mr. Wertzberger: How long did the tetany last and was it treated or relieved by calcium?

Dr. Escalante: I cannot exactly say how long. He was given calcium gluconate.

Question from the audience: Was the prostate normal?

* Although a student at the time of the conference in February, 1963, he, like the others referred to as students, received the M.D. degree in June, 1963.

Dr. Delp: Yes. Any other questions? All right let us see the electrocardiograms.

Electrocardiograms

Mr. Kemper: We have one electrocardiogram (Figure 1). It was taken on admission to this hospital. There is a normal sinus rhythm with a rate of about 120. The QRS is isoelectric in lead I and inverted in AVF which would suggest a left deviation. There is prolongation of the Q-T interval suggesting a hypocalcemia. The first lead is V4R. There is poor progression of the R wave across the precordium. I see no evidence of S-T elevation or P wave inversion. I interpret this electrocardiogram as suggesting a hypocalcemia and left axis deviation.

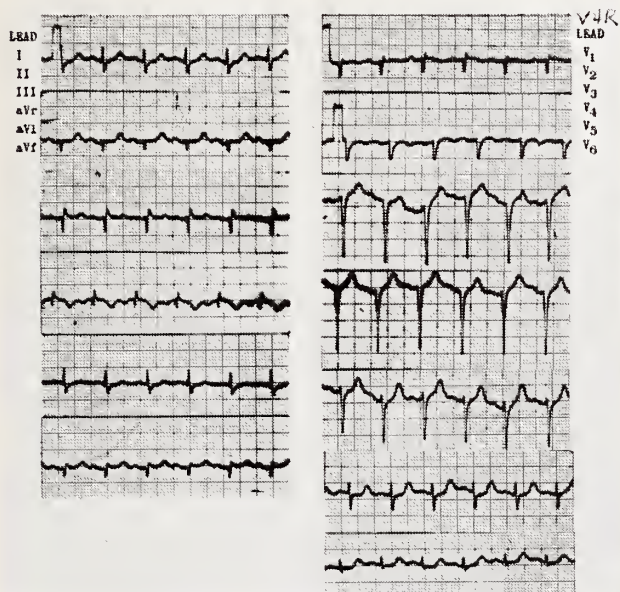


Figure 1. Electrocardiogram taken on admission.

Dr. William Hays (internist): There is left axis deviation. There is a Q wave in II, III to AVF, and there is a poor progression of the R wave across the anterior precordium. These may only be positional changes, but there is left axis deviation. However, they must suggest the possibility of an anteroseptal infarct. The Q-T interval is at the upper limit of normal, and this is compatible with hypocalcemia.

X-Rays

Mr. Toalson: There are two x-rays. The chest x-ray (Figure 2) is probably a portable film. No bony abnormalities are seen. Both diaphragms appear to be elevated; the heart shadow is very poorly seen. There is congestion or infiltration over the left costophrenic angle. The mediastinum is wide with elevated diaphragms. In a portable chest film it is hard to say much about this. It could be enlarged lymph

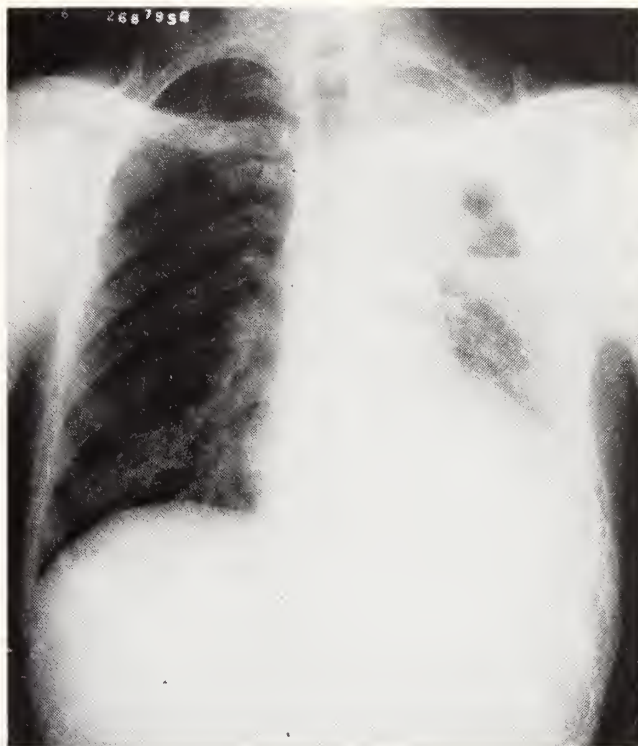


Figure 2. Chest x-ray taken on admission.

nodes since this patient is lying on his right side. The abdominal film (Figure 3) shows a severe distention of the small bowel and a hazy appearance of the lower part, the side he is lying on, compatible with fluid or peritonitis.

Dr. Donald R. Germann (radiologist): I will just add a few points. First of all, the abdominal film is a decubitus film. The loops of bowel which are filled here seem to maintain their fluid levels at approximately the same level. There is a loop with the fluid levels at about the same on both sides. This would imply a severe ileus rather than obstruction, but this is not a fool-proof sign. This film was taken with the idea of finding free air. It was our impression that it did not show free air. The patient did have some fluid in the peritoneal space as is evidenced by the widening of the loops and fluid within the lumen of the small bowel, which was generally dilated.

Discussion

Miss Kenoyer: The case for presentation today is that of a 63-year-old, white man who, with a six-year history of chronic lymphatic leukemia, developed signs and symptoms of an acute abdominal crisis. Our differential diagnosis is based on the sudden onset of severe epigastric pain and vomiting, followed by a four-day decline characterized by ileus, progressive fever, tachycardia, tachypnea, and finally shock leading to this patient's demise. The important extra-abdominal conditions which are often present with



Figure 3. Abdominal film taken on admission.

acute abdominal pain are myocardial infarction, pulmonary embolism, pneumonia, esophageal rupture and dissecting aneurysm. In spite of the electrocardiographic findings which may suggest an old myocardial infarction, this man did not show any abnormalities of the S-T segments, and initially he did not show shock. These other conditions as well as myocardial infarction are ruled out by an atypical history, physical findings, clinical course and laboratory data. Renal lithiasis must be considered owing to the blood in the urine, but is excluded because of the absence of typical pain patterns and clinical course of our patient.

He had two episodes of pain which could be compatible with gallbladder disease and biliary tract disease in the past. However, we do not feel that the present episode of abdominal pain and his clinical course support the diagnosis of biliary tract disease. Acute appendicitis is notorious for its protean manifestations, particularly in the aged individual. One cannot, therefore, definitely ignore this diagnosis, but we consider it unlikely because it cannot explain all the findings. Intestinal obstruction, which our patient obviously had, can be produced by mechanical factors as well as by ileus. Mechanical factors which are important here are adhesion, volvulus, intussusception and herniation. Particularly in our patient, leukemic mesenteric lymphadenopathy and intraluminal-leukemic infiltration producing polypoid lesions could well lead to the obstruction and must be

considered. Mechanical obstruction is characterized by a more fulminant course than our patient exhibited, and we therefore feel that secondary ileus was the cause of the obstruction in our particular patient.

Mesenteric arterial occlusion classically presents with sudden, severe abdominal pain, vomiting, a shock-like picture, abdominal tenderness, and a constant rigidity of the abdomen. Bloody stools and ascites are commonly present. Since it is known that mesenteric arterial occlusion is more common in patients with blood dyscrasias and those of the older age group, it becomes an exceedingly attractive diagnosis. It is to be noted, however, that infarction of the bowel usually results in a more rapid course, and it seems unlikely to us that a patient harboring a gangrenous bowel would walk and converse for three days following the initial insult. Bloody stools were not observed, and the rectal examination did not confirm this. Neither does the laboratory evidence point toward this diagnosis.

Perforated peptic ulcer is well known for its ability to produce sudden, violent abdominal pain and vomiting. It is followed rapidly by a board-like abdominal rigidity, exquisite pain to palpation, tachycardia, tachypnea and fever. The patient is usually moribund within 24 hours, and progresses to death unless there is surgical intervention. A posterior perforation into the retroperitoneal space or into the lesser sac may produce more slowly progressive signs and would fit the course of this man's illness. Acid peptic disease is found more frequently in patients with leukemia, and the adrenal corticosteroids are well known for their tendency to precipitate gastric ulcerations. A high percentage of perforated ulcers are associated with free air in the peritoneal cavity, and our patient did not show this. Although we cannot absolutely rule out this diagnosis, we do feel that we have more evidence supporting a diagnosis of acute pancreatitis.

Primary acute pancreatitis constantly presents with sudden, severe, agonizing abdominal pain. Nausea, vomiting and abdominal distention are nearly always present. Shock may or may not be initially present, but in fatal cases it is invariably found at some time during the course of the illness. The pulse may be normal or slow, but will rise with progression of the illness. Abdominal rigidity may be present or minimal, and abdominal signs may be unimpressive in the face of the pain exhibited by the patient. This certainly seems to have been the case here. History is important in the diagnosis of acute pancreatitis. Alcoholism, cholelithiasis, peptic ulcer and previous bouts of unexplained abdominal pain are important points to be noted. It can also be precipitated by corticoid therapy. Dehydration, hypochloremia, alkalosis or acidosis, and hypocalcemia are often found in

acute pancreatitis. Glycosuria occurs in about 20 per cent of the patients, albuminuria in about 80 per cent, and hemoglobin levels of 15 gm. or above in 30 to 40 per cent. Serum calcium levels are lowered in three to ten days in the course of this disease, and tetany occasionally occurs. Our patient exhibited most of these findings. His defense mechanisms undoubtedly were altered by his age, by his long-standing leukemia, hypogammaglobulinemia, and corticoid therapy.

We do not believe that Addison's disease can be a primary diagnosis here, but we do feel that he had compromised adrenal reserve which may well have contributed to his death during the final 18 hours. It is our opinion that this patient developed acute pancreatitis leading to ileus, sequestration of fluid, septicemia, shock and death.

Dr. Delp: Thank you, Miss Kenoyer, for your discussion. Mr. Vancil, what is your diagnosis?

Mr. Vancil: The same.

Dr. Delp: Are there any dissenting or second diagnoses?

Mr. Palmer: My second diagnosis was either penetrating or perforated ulcer.

Mr. Rouse: Mesenteric thrombosis.

Mr. Toalson: Penetrating ulcer.

Mr. Palmer: Penetrating ulcer.

Mr. Wertzberger: Mesenteric artery occlusion.

Miss Kenoyer: Perforated ulcer.

Dr. Delp: Now, there are some things I want you to comment about. First of all, I would like some comments as to what bearing leukemia might have on this man's illness, Mr. Vancil?

Mr. Vancil: It is not uncommon to see penetrating ulcers even into the pancreas in people with chronic myelocytic and lymphocytic leukemia.

Dr. Delp: Mr. Rouse, this man was getting only 5 mg. of prednisone a day.

Mr. Rouse: I believe that is a homeopathic dose.

Dr. Delp: Do you think it could have been related with his present illness?

Mr. Rouse: It is conceivable, sir, after six years. I am not quite sure.

Dr. Delp: What do you think about that, Miss Kenoyer?

Miss Kenoyer: I saw one study done on adrenal insufficiency in people on long-term corticoid therapy in which the patients were getting doses of this magnitude, and they found that with ACTH stimulation of the adrenal glands, it usually took three to four days before they could get them to respond. It was felt that definitely these people did show adrenal insufficiency, and in crises this would necessitate increased corticoid therapy. I think this man, particularly since he was off his corticoids after his

illness, probably had some adrenal insufficiency complicating his picture.

Dr. Delp: This patient had normal amylase values here. This does not really add or detract to our diagnosis because if this man did have acute pancreatitis with an onset three to four days earlier, his amylase could have returned to normal within a matter of 20 to 24 hours—possibly as soon as three to four hours. Mr. Palmer, will you comment about this?

Mr. Palmer: I would agree with it.

Dr. Delp: Mr. Kemper?

Mr. Kemper: I guess it could occur, and sometimes you do not even get a rise in the amylase with acute pancreatitis.

Mr. Toalson: In something like ten per cent of the cases there is no elevation of the amylase in acute pancreatitis.

Dr. Delp: Mr. Toalson, what do you think about his tetany?

Mr. Toalson: I think probably the most logical explanation is that this man developed a hypocalcemia and this resulted in his tetany.

Dr. Delp: How?

Mr. Toalson: It was probably due to precipitation of his calcium due to the free fatty acids released by the pancreatic disease.

Mr. Wertzberger: It could be by that mechanism, or it could be due to the relative hypocalcemia due to the rapid infusion of fluids.

Mr. Palmer: On corticoid therapy with decreased absorption of calcium he could already have had a calcium level below normal.

Dr. Delp: The man had a white count of 108,000. Miss Kenoyer, do you think this was entirely a feature or factor of his leukemia?

Miss Kenoyer: I do not really know the answer to that. His white count, as we have seen, fluctuated widely. It went from 23,000 up to 108,000 on the same day. I think this man was trying to respond to his disease, but with the differential we have we can see that his neutrophils were not activated. I think that his response to this disease was inhibited by his hypocorticism.

Dr. Delp: The man had very low blood pressure, and for this he received a considerable amount of fluid and vasopressor agents. Would you comment concerning this, Kemper?

Mr. Kemper: There is a great deal of discussion about what is "irreversible" shock. Some people say now that the only way we can reverse "irreversible" shock is infusion of blood intra-arterially. Whether this is done or not, I do not know. I feel that his picture suggests that he had severe atrophy of his adrenal glands, and this in itself will drop the blood pressure to 70/30 or the like. I also believe he had

septicemia which, due to the endotoxins, will drop the blood pressure.

Dr. Delp: Mr. Wertzberger, would you comment about the vasopressor agents?

Mr. Wertzberger: I think the vasopressor agents have value when there is no loss of fluid.

Dr. Delp: Would you have used them in this patient?

Mr. Wertzberger: I think I would have used blood, if I could.

Mr. Rouse: I think the vasopressors are used in hypovolemic shock certainly, and as long as the irreversible state has not been reached I think in general you do get the best results with vasopressors. However, since the man had a septicemic component as well as the addisonian component with the shock, corticosteroids would then be indicated.

Miss Kenoyer: If our diagnosis is correct and this man had acute pancreatitis, the hypovolemic shock is treated best by blood and plasma.

Dr. Delp: Would you have given him vasopressor agents?

Miss Kenoyer: I might have given him vasopressor agents while I was getting some blood to give to him.

Dr. Delp: You would not give them to him for 18 hours?

Miss Kenoyer? No.

Dr. Delp: Was there a Gray-Turner sign, Mr. Rouse?

Mr. Rouse: Gray-Turner sign is characterized by ecchymoses around the umbilicus and in the flank and retroperitoneal hemorrhage with some extension into the bowel tissue and therefore discoloration.

Dr. Delp: All right, now let us have Dr. Bown's discussion.

Dr. Robert W. Brown (internist): I think this is obviously a very difficult clinical diagnosis to make because of the conflicting findings. I cannot really say on every basis that one could refute any one of the dozen possibilities. However, looking at it from a little bit different point of view, we have a man who had leukemia for several years, who had been on steroids for several years, and had a sudden illness with most of the findings pointing to the abdomen. However, if we look at the protocol carefully, we see that this man did have a very striking group of urinary findings. He had albumin, sugar, red cells, pus, and bacteria. This is a most distressing finding in a leukemic patient on corticoids because one of the things that concerns you most in such a patient is the susceptibility of the patient to infection. If we look again at the laboratory findings we see the man had only one gram of globulin, which again is disturbing because this means that he may have had a

hypoglobulinemia, thereby further lowering his resistance to infection.

How can we tie this in with the entire syndrome? We can assume the man had some sort of urinary finding that precipitated the first pain—a stone—perhaps uric acid stone or perhaps just some pyelonephritis—an infection in the upper part of the kidney pelvis. This precipitated a peritoneal reaction. This is not unheard of, and I would think that maybe the findings of the abdomen were really findings of the urinary tract difficulty because he got along pretty well after that. He really got up and was around three days later. When he arrived here, the signs were those of infection and collapse of his vascular system. Gram negative bacteremia would explain it, plus the fact that they could not localize anything in his abdomen. The respiratory rate was very rapid and deep, which goes along rather strongly with gram-negative bacteremia. On the other hand this would go along with a disseminated infection, particularly one in the central nervous system.

He had dilated pupils. I do not know whether this was due to the methantheline or not. Nevertheless, he made a rapid exit and I think that this is reminiscent of the situation of a man placed under considerable stress not covered adequately by steroids. We have to assume that he had both infection and a stressful situation which produced an addisonian crisis. He hyperventilated; he was being aspirated so that he was developing an alkalosis; he already had a low serum calcium and developed tetany. Perhaps the serum calcium was aggravated by the prednisone which he had been on for a period of time.

I would choose to disagree with the students although if they wanted to pin me down about any one of the specific things, and particularly pancreatitis (the only thing against it being classic is the amylase), I would have trouble arguing with them. I would go along with the fact that this man had a urinary tract infection—a severe one—which invaded his blood stream and perhaps also invaded the venous plexus and got into his central nervous system. He had an addisonian crisis which was not treated quickly enough; he went into irreversible shock, and died. I will leave the comments about the plasma replacement, because I think with a hemoglobin of 17 Gm. you would not particularly want to give the man red cells but you would give him a volume expander.

Dr. Delp: Thank you, Dr. Brown. Dr. Berry?

Dr. Maxwell G. Berry (internist): Acute pancreatitis is a very attractive diagnosis, and I would really have to say that we cannot successfully, from the facts I have in my mind, say that he did not have acute pancreatitis. He had a sudden episode of abdominal disease of some kind and it could have been

pancreatitis, and it could have been the other possibilities that have been mentioned. I was also intrigued by the possibility that, with these ecchymoses on his flank, he might have had hemorrhage, maybe around his aorta; that he might have dissected off a little bit of his aorta and might have bled retroperitoneally. The only thing against this is the fact that he had a pretty good hematocrit—in fact, an excellent hematocrit when he came in here.

I would like to say one thing about the electrocardiogram and that is that an electrocardiogram of this type is almost always associated with previous—probably somewhat longer than this man had—coronary heart disease. I will not go into the details of that. His final episode could have been either a further hemorrhage (which I do not think it was) or it could have been septicemia which the students have promoted pretty well, and I think is the best possibility. The rise in his blood count is a leukemoid sort of rise that is seen with septicemia. The shock goes with it, and the fact that he went on and died this long after he had the episode of shock would also go with septicemia. However, I want to again say that the possibility of the retroperitoneal hemorrhage during all of these things still exists, although I think that the laboratory work is certainly against it.

Dr. Arthur P. Klotz (internist): I think I would have to accept the protocol at face value and say that it is a classical history of hemorrhagic pancreatitis. He had all of the findings that are necessary for it including the normal serum amylase level. Over 50 per cent of these patients do not have an elevation. I think that here the urinary amylase might have been of interest. He had no Gray-Turner sign or Cullen's sign but these are rare with pancreatitis. He had gallstones, and 50 per cent of the patients with pancreatitis have biliary tract disease. So perhaps we need not look further for the cause of the pancreatitis, but then the question of corticoids comes up and it was mentioned that some cases of pancreatitis have developed with the use of corticoids. They have been advocated for pancreatitis, and there are those for it and those against it. We use corticophins in dosages of 120-140 units daily for six weeks or three months and do not ordinarily run into difficulty. It is not too common that pancreatitis will result from corticoids, but I do not think we can discard the fact that there are some rare cases that develop it. The same applies to chlorothiazide which can do the very same thing. The course of this patient would go along with progressive, necrotic destruction of the pancreas with final peritonitis, gangrenous bowel and finally death.

Dr. Delp: Dr. Bolinger, are there any comments that should be added about this calcium value?

Dr. Robert E. Bolinger (internist): I do like to

pay attention to the calcium value because it seems to fit in with the diagnosis pretty well, but I think we should be a little cautious of it because we do not know the blood urea nitrogen or the serum phosphorus in this patient. If this patient did happen to have a high blood urea nitrogen or a high phosphorus, the calcium would not mean very much. We should use a little caution on that.

Pathology Report

Dr. Howard P. Fink (pathologist): The body was somewhat obese, weighing 173 pounds and measuring 5 feet 7 inches. The abdomen was somewhat distended, and the abdominal cavity contained between 1 and 2 liters of rather clear, brownish fluid. The pancreas was swollen and showed extensive areas of hemorrhage and necrosis. Opaque, chalky-white patches of fat necrosis were also visible in the pancreas and in the adjacent mesentery. The gallbladder was not distended, but it contained about 50 or 60 small, yellow or green, mixed, faceted stones; and numerous similar stones were also present in the common bile duct. Four of these stones were jammed in the common duct just above the ampulla of Vater (*Figure 4*). The pancreatic duct and the common bile duct opened together into the duodenum, but did not unite to form a common channel of any appreciable length. The mucosa of the duodenum appeared normal and showed no evidence of ulceration.

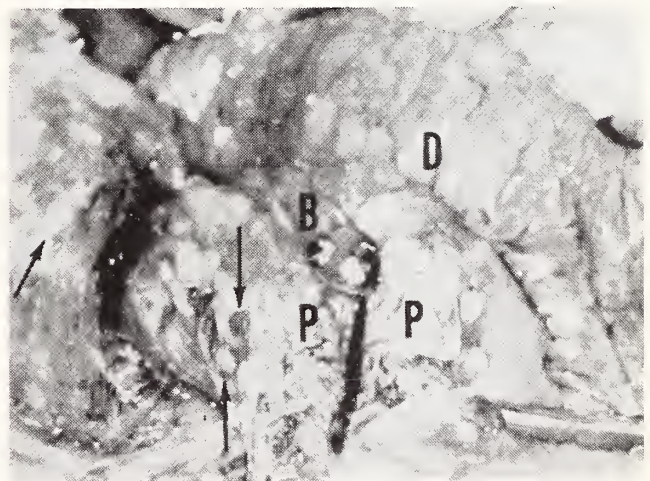


Figure 4. P, pancreas (cut surface); B, common bile duct (opened), containing stones; D, duodenal mucosa. Arrows point to foci of hemorrhage and necrosis in pancreas and adjacent mesentery.

Microscopic sections of the pancreas revealed extensive areas of necrosis and hemorrhage involving acinar and islet tissue and also fat (*Figure 5*). Structural outlines tended to be still discernible in the necrotic patches, except where obliterated by hemorrhage. Much edematous but apparently viable paren-



Figure 5. Acute hemorrhagic pancreatitis. P, viable pancreas; N, necrotic pancreas; F, necrotic fat; T, thrombus in small vein. Hematoxylin-eosin, approximately 72 \times .

chyma remained, and even where the necrosis was most widespread, the acinar tissue around small ducts tended to be preserved.

This was, then, a fairly typical example of acute hemorrhagic pancreatitis, which might well be called enzymatic autodigestion of the pancreas. The pancreatic enzymes seem to be released from the acini or duct system into the parenchyma and interstitial tissue under conditions of increased intra-duct pressure, often associated with an elevated rate of secretion or with duct obstruction as in this case. Reflux of bile into the pancreas as a result of obstruction at the ampulla is probably not often a causal factor, in spite of the classic case reported many years ago by Opie. The manner of activation of the enzymes is not well understood.

The necrotic fat in this case had the usual microscopic appearance of persistent outlines of fat cells which were filled with a precipitate of insoluble soaps, formed by the union of cations (principally calcium from blood and tissue fluids) with free fatty acids liberated by the enzymatic hydrolysis of stored fat. You will recall that this patient had a low blood calcium on admission and developed tetany shortly before death, presumably because of severe depletion of free calcium ions and possibly of magnesium as well. The free fatty acids and their soaps appear grossly as the chalky deposits already referred to. These deposits often are found at some distance from the pancreas; such lesions may be the result of transport of activated pancreatic lipase through lymphatic channels, but there is experimental evidence to indicate that the lipase originates within the fat cells themselves, and is released and activated by some unknown factor, probably of pancreatic origin. The

hemorrhage is best explained as the result of enzymatic necrosis of the walls of small blood vessels. This vascular damage is often accompanied by thrombosis.

The three most proximal loops of jejunum were interadherent by somewhat hemorrhagic fibrinous adhesions. The bowel wall in this region was edematous; its mucosa was congested, and along the crests of the plicae circulares were many linear areas of hemorrhage and ulceration (Figure 6). The ulcers were covered by a yellow or gray adherent film, shown microscopically to consist of fibrin, neutrophils, and necrotic mucosa. This lesion can therefore be designated a pseudomembranous enteritis. The involved jejunum did not appear to have been in direct contact with the pancreas, and the cause of the necrotizing inflammation is obscure, as it is in many examples of pseudomembranous enteritis. Ischemia certainly plays an etiologic role in many cases, and I believe did so in this one; this patient was in shock



Figure 6. Pseudomembranous jejunitis. Dark areas of mucosa are hemorrhagic, pale areas ulcerated and uncovered by fibrinous film. Normal mucosa at right end.

for the last 18 hours or more of his life and, although the trunk of the superior mesenteric artery was unobstructed, some of its upper branches may have been compromised by their proximity to the necrosis and inflammation in the pancreas. We did not succeed, however, in demonstrating significant vascular lesions.

An acute hemorrhagic gastritis was also present, but there was no evidence of necrosis, ulceration, or pseudomembrane formation in the stomach. The gastritis is attributable to the persistent vomiting rather than to ischemic factors.

The kidneys were of normal size, smooth, slightly softened, and a little pale. The postmortem blood creatinine level was 8 mg. per cent, a sufficient indication of azotemia. Microscopic sections of kidney showed dilatation and early necrosis of the proximal convoluted tubules, with fading and disappearance of their nuclei; the glomeruli were bloodless and the interstitial tissue is edematous (*Figure 7*). Taken together with the history of shock, these findings are good evidence of an acute nephrosis of the type often called hypoxic. This autopsy was performed almost 12 hours after death however, and the histologic picture, if considered only by itself instead of in relation to the shock and azotemia, is also compatible with mere postmortem autolysis. But I have seen kidneys similar to this in other cases of hemorrhagic pancreatitis autopsied within three or four hours after death, and I believe the lesions represent

what might be called antemortem autolysis, resulting partly from poor renal perfusion during terminal shock and partly, perhaps, from circulating pancreatic enzymes.

The patient's chronic lymphatic leukemia was easily demonstrable anatomically, but appeared to bear no relation to his death. The lymph nodes throughout the body were enlarged, although not greatly so, and were homogeneous, rubbery, and soft. Histologic sections of these nodes showed that they were overrun by masses of leukemic cells, but the node architecture was expanded rather than replaced or destroyed; lymphoid follicles were few or absent, but peripheral and medullary sinusoids were still discernible, and the reticulum framework was intact (*Figure 8*). The leukemic cells were quite small and uniform; if one examined them cell by cell they were practically indistinguishable from normal lymphocytes, but they occurred in broad monotonous sheets of unmistakable leukemic significance and extended beyond the capsules of the nodes. The spleen likewise was somewhat enlarged, weighing 320 grams; its lymphoid follicles were not discernible, and the red pulp was full of lymphocytes. The obliteration of follicles in spleen and lymph nodes was perhaps as much an effect of the prolonged corticosteroid ther-

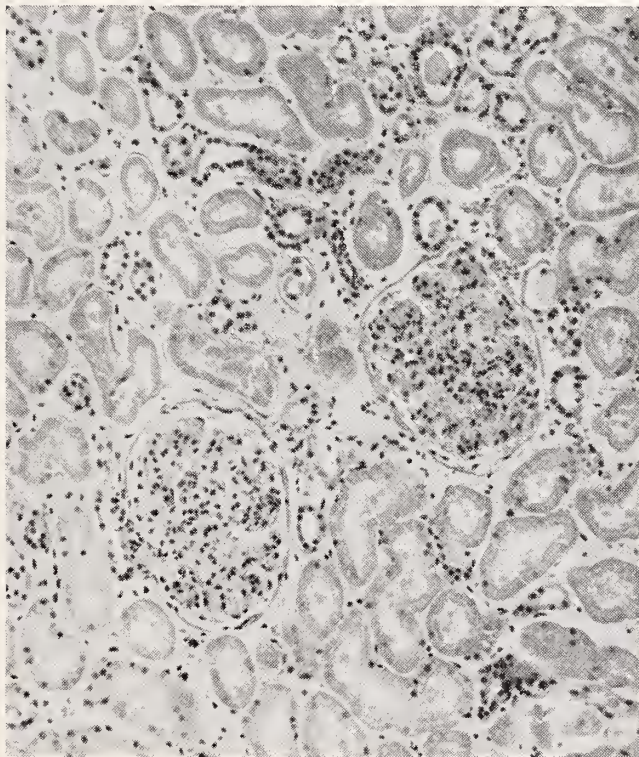


Figure 7. Kidney with acute nephrosis. Necrotic tubules with fading nuclei; edema of interstitial tissue. Hematoxylin-eosin, approximately 150 \times .

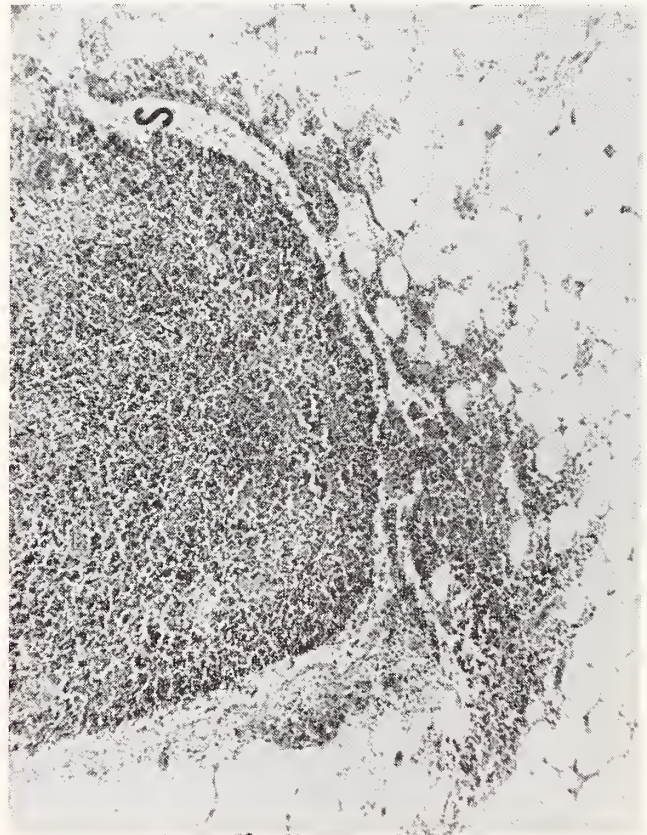


Figure 8. Chronic lymphocytic leukemia. Edge of lymph node filled with small lymphoid cells which penetrate into surrounding fat. S, intact peripheral sinusoid. Hematoxylin-eosin, approximately 72 \times .

apy as of the leukemia itself. The hematopoietic bone marrow was extensively infiltrated by the leukemic lymphoid cells, but apparently adequate normal hematopoietic tissue was still present, including erythroid islands, granulopoietic cells, and megakaryocytes (Figure 9). In the liver, the portal spaces were somewhat expanded by a heavy infiltrate of lymphocytes. The liver was otherwise normal except for the presence of excess hemosiderin deposits, probably the remote result of previous blood transfusions.

We examined numerous sections of brain and did myelin stains in the hope of finding some evidence of myelin digestion, which occasionally occurs in cases of acute hemorrhagic necrosis of the pancreas. We were disappointed; the brain was normal in weight and the only abnormality we were able to find microscopically was the presence of collars of lymphocytes, presumably leukemic, around a few small vessels.

The adrenal glands weighed 14 grams together and did not appear atrophic or otherwise diseased except for the presence of a few recent petechial hemorrhages in the cortex. There was no necrosis, autolytic or otherwise, comparable to that seen in the kidneys.

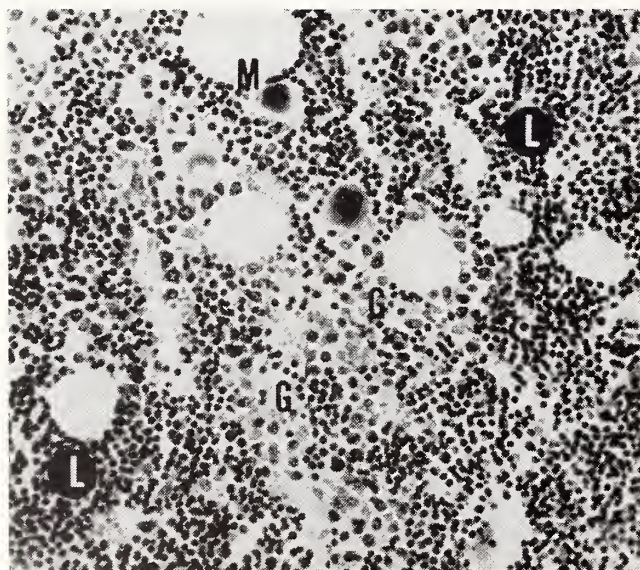


Figure 9. Bone marrow in chronic lymphocytic leukemia. L, leukemic lymphoid cells; G, normal granulopoietic cells; M, megakaryocyte. Giemsa, approximately 300 \times .

In summary, this man had a clinical course and autopsy findings fairly typical for acute hemorrhagic pancreatitis, plus an acute pseudomembranous jejunitis which was probably at least partly the result of local ischemia, and chronic lymphocytic leukemia as an incidental disease.

Dr. Delp: Any questions of Dr. Fink?

Mr. Vancil: Was there anything cultured from the blood?

Dr. Fink: A few of the usual autopsy table contaminants, some coliform organisms, and enterococci; the same from the abdominal fluid. The pancreas itself was not cultured, I am sorry to say, nor was the jejunum.

Mr. Rouse: Was there evidence of myocardial infarction?

Dr. Fink: None whatever. He had a few minute foci of fibrosis, but his heart was normal in size and not fibrotic.

Dr. Delp: Thank you, Dr. Fink. I think, in retrospect, that the first diagnosis should have been acute pancreatitis. It probably should have been based on these features: first of all, his history of gallstones which would have been of some suggestive importance, and secondly, two episodes of previous pain somewhat similar but not as severe as the pain that he had on the road to Tucumcari that morning. I think the pain in itself became very significant when understood or thought of in light of the posture which the patient reported. The medical student was the only one who wrote this in his history. This definitely became extremely important, and we now know or feel that the low calcium was significant. I think in the differential diagnosis my first item would have had to have been a perforated and peptic ulcer. Secondly, I would have thought of simple gallstone colic, going just a little bit more than the simple state. Thirdly, I would have thought of renal colic as Dr. Brown was discussing, and fourthly a high intestinal obstruction of some sort because everything in this protocol and in these findings could have been mimicked as far as the clinical picture is concerned by a high intestinal obstruction mesenteric thrombosis. I am surprised that you fellows did not include dissecting aneurysm in your differential.

Primary Diagnoses

Cholelithiasis with multiple mixed stones in the common bile duct and ampulla of Vater.

Acute hemorrhagic pancreatitis, with fat necrosis of the mesentery.

Acute hemorrhagic gastritis.

Acute pseudomembranous and hemorrhagic jejunitis.

Acute congestion and edema, lower lobes of both lungs.

Acute nephrosis.

Acute congestion and focal hemorrhages in adrenal cortices.

Accessory Diagnoses

Chronic lymphocytic leukemia, with involvement of thoracic and abdominal lymph nodes, spleen, bone marrow and liver.

Hemosiderosis of liver, moderate.

The President's Message

DEAR DOCTOR:

Changes and suggested changes in the actual practice of Medicine and concepts of medical practice have been occurring so rapidly that most of us, though not down or even on the ropes, are a bit groggy. For this reason accurate information to *each member* of our Society seems most important.

Dr. Orville Clark, Editor, has decided to publish in the JOURNAL, as facts are available, concise, informative articles on the following:

1. Fate of Kerr-Mills—present status and position of KMS.
2. HR-6675 (Medicare) and its relation to Kerr-Mills.
3. Public Health and the Kansas Medical Society.
4. President's Commission on Stroke, Heart Disease, and Cancer—Four recommendations contained in S-596 and HR-3140.
5. The Coggeshall Report to AAMC—what it is and its importance to the physician in Clinical Medicine.
6. The Kansas Health Facilities Information Service, Inc.—its membership and what it purports to do.

Watch for each issue and save each one for future reference. This information will be valuable to you both today and tomorrow.

Sincerely,

A handwritten signature in cursive script that reads "George Burkett, Jr., M.D.".

President





Editorial COMMENT

Well, it's here. After all these years and all the battles and all the printers' ink and the speeches and the election, on July 1, 1966, eighteen and a half million Americans are under Medicare.

Now what? You will hear a variety of ideas expressed. Physicians will say what they propose to do and not do. There will be more printers' ink and more speeches but for now, at the moment this is written, a very few things are completely clear and these deserve consideration.

Physicians in private practice have been placed under Social Security taxation as of this present calendar year and will be required to pay the schedule for self-employed persons. The law made this retroactive and nothing said or done can alter the situation at this time.

Parts 1-A and 1-B of Public Law 89-97 go into effect on July 1 next year. This is the hospital benefit and the voluntary health insurance program for those over age 65. Known on this date is that 1-A offers up to 90 days hospital care with a \$40 deductible and a \$10 daily charge after the 60th day. Part 1-B offers voluntary health insurance at \$3 a month to everyone 65 and over, and pays 80 per cent of a "reasonable" fee after the patient pays a \$50 deductible.

All else in the program is subject to rules and regulations not yet formulated. It is not known how the program will be administered, what will be considered reasonable fees, which hospitals or nursing homes will be included, how hospital review plans will operate.

But regardless of all else, this is clear: the program does not begin until next July. Physicians would render a significant service if they urged their patients to retain their health insurance for the present. The Insurance Commissioner of Kansas reports receiving many inquiries from elderly persons who plan to discontinue their insurance.

If this is dropped, it may be difficult replacing

present protection and who knows at this time whether private insurance will convert existing policies into contracts that cover the deductibles and co-insurance required under the new law? Who knows whether such benefits would become available to new subscribers beyond 65 years of age?

The operation of Medicare is of tremendous concern to the medical profession but completely apart from that, the physician has an obligation to prevent his elderly patient from making mistakes at this time through lack of understanding.

Distribution of Physicians

The AMA prepared a 164 page book of tables in which is listed by state, region, district and by county the number of physicians. Not only that, it lists those in private practice and further breaks this down into the number in each of six major specialties including General Practice.

It records the number of hospitals and the number of hospital beds, the population as of January 1, 1964, and the average income per capita and per household as of 1963. The book will be of interest to those physicians who enjoy statistics and may be obtained, in limited number, without cost by writing the Department of Economics, American Medical Association, 535 North Dearborn Street, Chicago, Illinois 60610.

For example, as of April 6, 1964, there were listed 277,366 physicians—21,479 were in federal services, 1,752 were practicing in U. S. possessions, 1,773 were temporarily out of the country and 1,134 were listed as of unknown address. So the directory used the figure of 251,228 non-federal physicians residing in the U. S.

A total of 174,685 (70 per cent) were in private practice. Of these 107,186 or 61 per cent were listed as specialists. The remainder, 67,499, were general practitioners. Seventy-six thousand five hundred forty-

three were not in private practice. Among these 33,877 were interns or residents, 10,915 employed full time by hospitals, 7,429 full time medical school faculty, 4,679 in preventive medicine, and 13,285 were listed as retired or not in practice.

The column listing income was of passing interest. The figures, obtained from the U. S. Department of Commerce, list income per household and per capita after deduction of federal, state and local taxes.

A rapid review appears to indicate that four states have an average per household income of more than \$9,000 after taxes, the highest being Delaware with \$9,442. Eight states range between \$8,000 and \$9,000, and six between \$7,000 and \$8,000. Eight states range between \$5,000 and \$6,000 and two are below \$5,000, the lowest average being \$4,839. The remainder are between \$6,000 and \$7,000. Kansas is listed at \$6,226 and stands 14th from the bottom of all states, but several come within a very few dollars of this amount.

A quick glance revealed some 18 local districts, usually counties or areas surrounding cities, with average household incomes of more than \$10,000. Three areas were above \$12,000. By far the highest in the nation, unless it is a misprint, is \$21,187 for the Chatahoochee area of Georgia. Johnson County, Kansas, is listed to have an average annual household income after taxes of \$10,819. A few of the other areas in the higher bracket include the cities of Boston; Chicago; San Francisco; Alexandria, Virginia; Reno, Nevada; and Westchester, New York.

Population and Income

"Insurance Economics Surveys" is a monthly review of Social Security Scene prepared by the Insurance Economics Society of America. The July issue carries some statements that appear to be of interest.

In the U. S. one baby is born every 7½ seconds and one death occurs every 17½ seconds. The net gain is 7,200 lives every 24 hours.

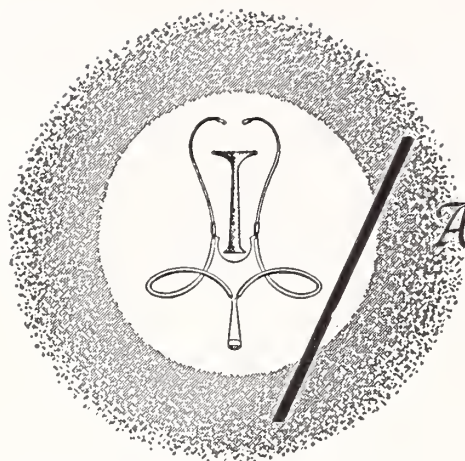
From 1850-1900, 40 million were added to the U. S. population. From 1900-1950, 80 million were added and from 1950 to 2000, it is estimated the increase will be 160 million.

People earn more than ever before. Almost half the families in this nation earn \$7,000 or more while ten years ago just 30 per cent of the families had incomes that high. And they are spending more. In the past ten years personal consumption expenditures have risen 40 per cent, now more than \$420 billion a year and are projected to reach \$625 billion by 1975.

In 1964 health insurance became a \$10 billion premium business, covering 145 million persons. This is 77 per cent of the total population.

Accidents create an economic loss of \$87 for every man, woman and child in the United States. Accidents killed 24,700 persons in this nation during the first three months of the present year which represents a numerical increase of one per cent over the same period in 1964 but because of population increases the death rate declined three per cent.

Kansas Psychiatric Society will hold its Fall meeting at the University of Kansas Medical Center, Department of Psychiatry, in Kansas City on Friday, September 24, 1965, 1:30 p.m. The theme of the program will be "Nursing Homes and Psychiatric Care of the Aged in Kansas." All interested colleagues are invited. Write to Dr. D. Greaves, Chairman of the Department of Psychiatry, Kansas University Medical Center, for dinner reservations.



Announcements

Professional meetings, conferences, and postgraduate courses of national importance are listed for the DOCTOR'S CALENDAR. Notice of the session is posted in advance to allow the physician time to make preparations.

OCTOBER

- Oct. 4-6 Annual Fall clinical conference, Kansas City Southwest Clinical Society, Hotel Muehlebach, Kansas City, Missouri. (Acceptable for 20½ hours by AAGP)
- Oct. 4-6 District VII meeting, American College of Obstetrics & Gynecology, Riverside Hotel, Gatlinburg, Tennessee.
- Oct. 10 Annual scientific meeting, American College of Nutrition, Americana Hotel, New York City. Contact: Robert A. Peterman, M.D., 3 Craig Court, Totowa Borough, New Jersey 07512.
- Oct. 11-13 Academy of Psychosomatic Medicine, Sherman House, Chicago. Contact: Edwin Dunlop, M.D., 150 Emory St., Attleboro, Massachusetts 02703.
- Oct. 14 Symposium on suicide, George Washington University, Washington, D.C.
- Oct. 18-22 Annual clinical congress, American College of Surgeons, Atlantic City, New Jersey. Write: American College of Surgeons, 55 E. Erie St., Chicago 60611.
- Oct. 23-28 American Academy of Pediatrics, annual meeting, Palmer House, Chicago. Write: American Academy of Pediatrics, 1801 Hinman Avenue, Evanston, Illinois 60204.

NOVEMBER

- Nov. 1-4 Section on Otolaryngology, Southern Medical Association, Houston, Texas. Write: Neil Callahan, M.D., 500 Rodman Avenue, Portsmouth, Virginia 23707.
- Nov. 1-4 Section of Ophthalmology, Southern Medical Association, Houston, Texas. Write: George S. Ellis, M.D., 812 Mai-

son Blanche Building, New Orleans 70116.

- Nov. 15-19 Annual Meeting of the Animal Care Panel, Sheraton Hotel, Philadelphia. Write: Mr. Joseph J. Garvey, Exec. Sec., 4 E. Clinton Street, Joliet, Illinois 60434.
- Nov. 22 Symposium on Hodgkin's Disease, co-sponsored by American Cancer Society and National Cancer Institute, New York Hilton Hotel, New York City. Write: Jack W. Wilder, M.D., American Cancer Society, Inc., 219 E. 42 Street, New York City 10017.
- Nov. 28 National Conference on the Medical Aspects of Sports sponsored by AMA, Philadelphia.

POSTGRADUATE COURSES

University of Kansas:

- Sept. 22 Closed Chest Cardiac Resuscitation
- Sept. 24 Infectious Diseases
- Sept. 30- Oct. 1 School Health: The Environment of Learning

For further information write the Department of Postgraduate Medical Education, University of Kansas Medical Center, 39th & Rainbow Blvd., Kansas City, Kansas 66103.

- Sept. 19 *The Psychiatrist for the Defense Debates the Psychiatrist for the Plaintiff*, on the medico-legal aspects of neurosis following trauma. Postgraduate seminar for family physicians, Neurological Hospital, Kansas City, Missouri. Contact: Paul E. Robinson, Neurological Hospital, 2625 West Paseo, Kansas City, Missouri.

KaMPAC*

****Kansas Medical Political Action Committee***

DEAR DOCTOR:

Last month we discussed the inevitable attempts to broaden Medicare which are already taking place.

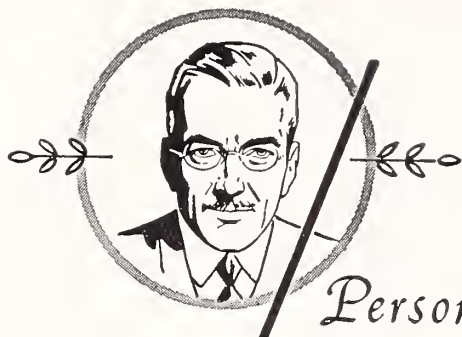
There is another phase of medicine which, in my opinion, will change the present practice of medicine even more. This is the DeBakey Report, more familiarly known as "The DeBakey Debacle." For those who have not read the report, this will set up thirty-two regional centers, nationwide, to care for and teach the care for patients with heart disease, strokes, and cancer. The reason offered for this change by the Federal Government is that modern methods of therapy are not being circulated about the country quickly enough. It is quite obvious, the group offering this explanation has never seen the flood of medical journals now on the market. Can you imagine your practice when all your patients with heart disease, strokes, or cancer, will demand to be sent, perhaps several hundred miles away, to one of these centers for the "newest treatments," at government expense, of course? The local practitioners will become only clearing houses.

This is another reason we must have more friends in Congress. KaMPAC can help here.

Very truly yours,

John W. Warren, Jr., M.D.

Chairman, KaMPAC



Personalities—IN KANSAS MEDICINE

Lucien R. Pyle, Topeka, and **Thomas P. Butcher**, Emporia, were recently appointed to the new 18-member governor's advisory committee on medical care for public assistance recipients.

Among those attending the week-long General Practice Review at the University of Colorado Medical Center in July were **David H. Rau**, Lakin, and **William W. Dodson**, Ulysses.

The city commission of Pittsburg recently announced the appointment of **Samuel B. Muller** to the post of city health officer.

A. A. Fink, Topeka, chairman of the steering committee for the preplanning study on public health in Kansas announced the appointments to the citizens' advisory committee in July. **Norton L. Francis**, Wichita, has been appointed to represent the medical profession.

John F. Nienstedt recently began a seven to eight months sabbatical from his practice in Beloit. He and Mrs. Nienstedt plan to spend most of the time in the San Francisco, California, area. During his leave Dr. Nienstedt expects to take postgraduate courses at the medical school of the San Diego Branch of the University of California.

In September, **William E. Schlotterback**, Mankato, will join the medical staff of the Republic County Medical-Dental Clinic and will move to Belleville.

Clarence A. Gripkey, Kansas City, was re-elected chairman of the Kansas City, Kansas-Wyandotte County Joint Board of Health in July.

Eugene F. McManus, Winfield, has been appointed health officer for Cowley County.

William J. Reals, Wichita, recently received his second Commendation Medal from the United States Air Force, for his guidance of the medical investigation of the jet tanker crash in Wichita last January. Dr. Reals received his first commendation in 1953 for his services in establishing a medical laboratory at Sheppard Air Force Base in Wichita Falls, Texas.

In July, **Richard E. Grene**, Topeka, was appointed to the staff of the Topeka Veterans Administration Hospital. Dr. Grene has been in private practice at LaCrosse and Junction City for the past several years.

A SPECIAL MESSAGE TO PARENTS: A thrifty child makes a wealthy man, the old proverb says. Start your boys and girls on the road to good fortune—encourage them to buy U. S. Savings Stamps at the post office or at school.



Book REVIEWS

EMERGENCY TREATMENT AND MANAGEMENT, by Thomas Flint, Jr., M.D. (3rd edition). W. B. Saunders Company, Philadelphia and London, 1964. 686 pages illustrated, \$8.75.

Flint's *Emergency Treatment and Management*, Third Edition, covers most of the situations apt to be encountered by an emergency physician and, as such, should be a useful addition to the emergency room "library" and to the practitioner's bag. Only single methods of treatment are given, without alternatives, presumably so as to expedite emergency usage.

The Third Edition, expanded and revised to meet changing concepts of adequate emergency treatment (for instance, closed chest cardiac resuscitation versus the older open cardiac massage), is in somewhat more usable order than the Second Edition (1958) and a still greater improvement over the First Edition (1954). The soft covered volume is small enough to fit readily in the physician's bag (or even in the coat pocket temporarily). Cross indexing is good, references are easily found, and type is easily readable. Style is brief and to the point. One hundred and seventy-six pages are devoted to poisons and poisonous plants, and it appears this would be useful in the office or in a community remote from a poison control center. One wishes there were more of a section on handling mass casualties, although there is a section on wartime emergencies, and perhaps the philosophy of mass casualty care is out of place in such a book. A section on administrative, clerical, and medical-legal principles and procedures is interesting, and the sub-section on the responsibilities of physicians examining and treating emergency cases sums up the philosophy of the emergency medical care in outline form.

Emergency Treatment and Management appears to be a useful handbook for most physicians apt to encounter emergency situations.—*B.M.P.*

COMMON BACTERIAL INFECTIONS: Pathophysiology and Clinical Management, by Edwin J. Pulaski, Col., MC, U. S. Army. W. B. Saunders Company, Philadelphia and London, 1964. 301 pages illustrated, \$8.50.

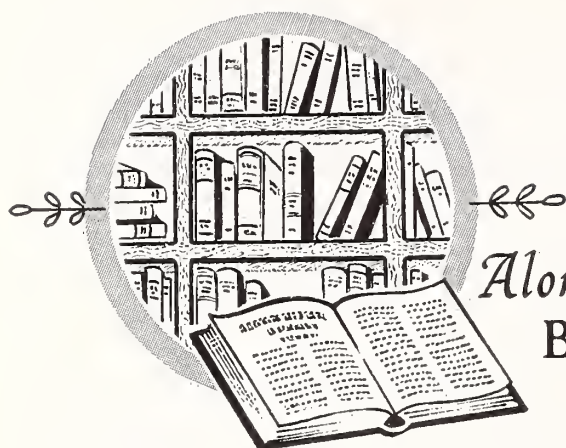
Colonel Pulaski has properly emphasized, at the beginning of this very succinct book, the host-parasite relationship and its modification by the various therapeutic agents. The dynamics of bacterial infection are ably reviewed in the first chapter, followed by another chapter, reviewing well-accepted principles of anti-microbial therapy. All of the common antibiotics are discussed as to structure, proposed mechanism of action, anti-microbial spectrum, and the more common indications of toxicity.

The author's surgical background is patent, as the discussion turns to problems of infection, associated with burns and trauma. Medical infections are less well organized; nevertheless, in this short review of pathophysiology and clinical management of the commonly encountered bacterial infections, sound therapeutic principles are clearly described, making this a valuable and important book for the practicing physician's library.—*N.V.T.*

THE LIVER AND PORTAL HYPERTENSION, by Charles G. Child, 3rd, M.D. W. B. Saunders Company, Philadelphia and London, 1964. 231 pages illustrated, \$8.50.

This is the first volume in the series of major problems in Clinical Surgery and certainly represents a unique manner for presenting a subject in completeness. Medical and surgical problems and complications in liver cirrhosis are thoroughly discussed in an orderly manner. Diagrams and illustrations are technically good and meaningful. The various facets to the problems described are presented in a concise manner which lends to easy, enjoyable reading. A very complete bibliography follows each section.

This volume should be very helpful in any medical library but especially for anyone interested in the surgical aspect of portal hypertension.—*A.V.M.*



Along The BOOKSHELF

Clendening Medical Library

Recent Acquisitions

- Altschule, M. D. *Roots of modern psychiatry* . . . 2d ed. Grune & Stratton, 1965.
- American Public Health Association. *Control of communicable diseases in man*. 10th ed. 1965.
- Anderson, M. H. *Upper extremities orthotics*. Thomas, 1965.
- Association for Research in Nervous and Mental Disease. *Disorders of communication; proceedings*. Williams & Wilkins, 1964.
- Barton, H. B. *Nervous tension, behavior and body function*. Philosophical Library, 1965.
- Behrman, H. T. *The practitioner's illustrated dermatology*. Grune & Stratton, 1965.
- Castelnuovo-Tedesco, Peter. *The twenty-minute hour; a guide to brief psychotherapy for the physician*. Little, Brown, 1965.
- Coppolino, C. A. *Practice of hypnosis in anesthesiology*. Grune & Stratton, 1965.
- Davis, J. H., ed. *Current concepts in surgery; a clinical interpretation of basic knowledge*. McGraw-Hill, 1965.
- DeGowin, E. L. *Bedside diagnostic examination* . . . Macmillan, 1965.
- Deuchar, D. C. *Clinical phonocardiography*. Van Nostrand, 1965.
- Elek, S. R., ed. *Clinical electrocardiograms*. Thomas, 1965.
- Felsenfeld, Oscar. *Synopsis of clinical tropical medicine* . . . Mosby, 1965.
- Folk, E. R. *Treatment of strabismus*. Thomas, 1965.
- Freud, Anna. *Normality and pathology in childhood; assessments of development*. International Universities, 1965.
- Fulton, W. F. M. *The coronary arteries; arteriography, microanatomy, and pathogenesis of obliterative coronary artery disease*. Thomas, 1965.
- Goldman, Leon and Gardner, R. E., eds. *Burns: a symposium*. Thomas, 1965.
- Gwinn, R. P. and Lees, Brian. *Clinical investigation for medical practitioners*. Lees Associates, 1965.
- International Anticoagulant Symposium, Miami Beach, Fla., 1964. *Anticoagulant therapy in ischemic heart disease*. Grune & Stratton, 1965.
- Juliani, Giovanni & Quaglia, Cesare. *Atlas of cardiovascular kymography*. Thomas, 1965.
- Kaplan, Bert, ed. *The inner world of mental illness* . . . Harper & Row, 1964.
- Keats, Sidney. *Cerebral palsy*. Thomas, 1965.
- Kellaway, Peter and Peterson, Ingemar, eds. *Neurological and electroencephalographic correlative studies in infancy*. Grune & Stratton, 1964.
- Knudson, A. G. *Genetics and disease*. McGraw-Hill, 1965.
- Kornhauser, A. W. *Mental health of the industrial worker* . . . Wiley, 1965.
- Kummerow, F. A., ed. *Metabolism of lipids as related to atherosclerosis; a symposium*. Thomas, 1965.
- Lever, W. F. *Pemphigus and pemphigoid*. Thomas, 1965.
- Lindesmith, A. R. *The addict and the law*. Indiana University, 1965.
- Lipman, B. S. and Massie, Edward. *Clinical scalar electrocardiography*. 5th ed. Year Book, 1965.
- Marino-Zuco, Carlo. *The operative treatment of fractures of the neck of the femur*. Thomas, 1965.
- Markell, E. K. and Voge, Marietta. *Medical parasitology*. 2d ed. Saunders, 1965.
- Meerloo, J. A. M. and Nelson, M. C. *Transference and trial adaptation*. Thomas, 1965.
- Meulen, J. C. H. M. van der. *Hypospadias*. Thomas, 1964.
- Müller, M. E., Allgöwer, Martin, and Willenegger, Hans. *Technique of internal fixation of fractures*. Rev. Springer, 1965.
- Newell, F. W. *Ophthalmology; principles and concepts*. Mosby, 1965.
- Spock, B. M. and Lerrigo, M. O. *Caring for your disabled child*. Macmillan, 1965.
- Tomkins, S. S. and Izard, C. E., eds. *Affect, cognition, and personality: empirical studies*. Springer, 1965.

KANSAS STATE DEPARTMENT OF HEALTH

TOPEKA, KANSAS

Division of Preventable Diseases—Division of Vital Statistics—Kansas Morbidity Incidence
Summary of Cases Reported in May, 1965 and 1964

<i>Diseases</i>	<i>May</i>		<i>5-Year Median 1961-1965</i>	<i>January to May Inclusive</i>		<i>5-Year Median 1961-1965</i>
	<i>1965</i>	<i>1964</i>		<i>1965</i>	<i>1964</i>	
Amebiasis	1	4	4	1	10	20
Aseptic meningitis	—	—	—	3	1	1
Brucellosis	2	—	1	2	1	6
Diphtheria	—	—	—	1	3	—
Encephalitis, infectious	2	1	1	7	18	7
Gonorrhea	197	179	197	977	1183	1087
Hepatitis, infectious	29	67	29	281	364	285
Meningococcal meningitis	2	1	1	11	5	8
Pertussis	—	3	3	8	11	16
Poliomyelitis	—	—	—	—	—	—
Rheumatic fever	—	—	—	2	3	3
Salmonellosis	31	6	6	113	65	65
Scarlet fever	3	4	20	56	65	273
Shigellosis	26	2	3	59	133	59
Streptococcal infections	123	100	100	1902	1024	823
Syphilis	94	63	98	396	398	479
Tinea capitis	6	10	6	26	44	44
Tuberculosis	30	28	28	98	111	114
Tularemia	1	1	1	2	4	6
Typhoid fever	—	—	—	—	2	—

MEASLES—AN ATTENUATED ATTITUDE

At the recent National Immunization Conference in New Orleans, Dr. James Goddard, Chief of the Communicable Disease Center of the U.S.P.H.S., stated that "measles can be eradicated." However, the road to the practical eradication of measles may be a long one, considering that the estimated annual number of cases is equal to the annual birth rate (4 million).

Certainly measles (Rubeola) is no longer to be regarded as an unavoidable childhood disease of minor consequence. Since the conquest of polio, measles complications now rank as the number one cause of childhood deaths. The number of medical complications (pneumonia, encephalitis, ear disorders, etc.) resulting from measles is supplemented by the mental and financial hardships which occur as a result of the disease.

Approximately 15 per cent of the victims of measles-caused encephalitis retain some mental retardation. In addition, it is generally agreed that even a "routine" case of measles may cause some degree of mental dulling and personality change. Alertness may be temporarily or permanently impaired, and decreases in intelligence quotient have been shown following a measles attack. These results are most un-

fortunate, considering the effectiveness of the vaccines presently available.

Financially, measles costs United States citizens approximately \$36 million annually. A total of \$12 million is paid to physicians for the treatment of this disease; \$24 million is spent on hospital care. The cost of hospitalization for mental illness resulting from measles is nearly \$4 million per year.

A 1965 amendment to the Kansas School Immunization Law adds measles to the list of diseases for which children must be immunized before entering school for the first time. To comply with this amendment, the Kansas State Department of Health must limit its present supply of measles vaccine for use with children who need the vaccine for school entry, and are financially unable to obtain it through regular medical channels.

Although the requirement that measles susceptibles be immunized before entering school represents a step forward, the most ideal group to immunize against measles is children who have just passed their first birthday. Accordingly, parents should be encouraged to discuss measles immunization with their physician. Because measles booster immunizations are not presently considered necessary, immunization at any age prior to school entry will comply with the school requirement.

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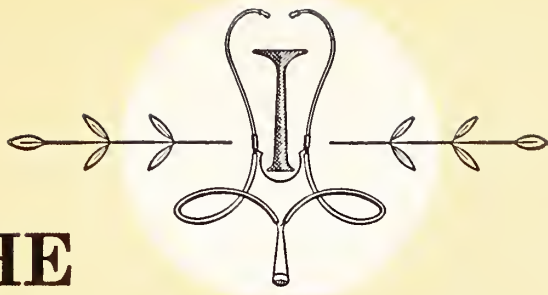
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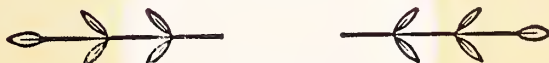
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The JOURNAL of the KANSAS MEDICAL SOCIETY

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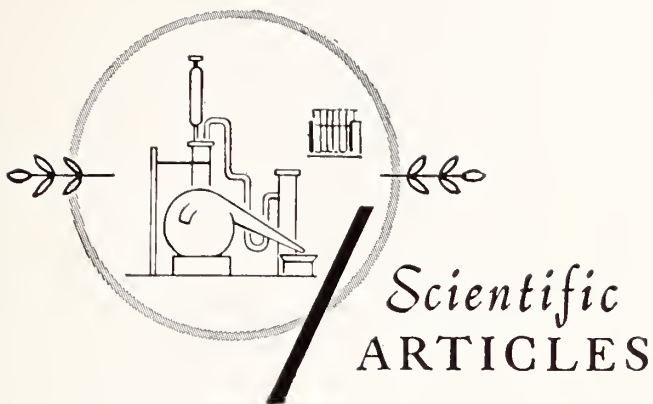
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Scientific ARTICLES

Programming for Retardates

Institutional Treatment of the Severely and Profoundly Retarded

LESLIE Y. CH'ENG, M.D., *Topeka**

THE TREATMENT and training of a severely or profoundly retarded child centers around basic self-care skills; eating, eliminating, dressing and communicating with others. These basic self-care skills, particularly eating and eliminating, are not only learned skills, but also life processes which develop within the matrix of a meaningful relationship with his immediate environment, usually his mother. This has a tremendous influence and importance upon the developing personality. Normally, intelligent as well as retarded children frequently use "hunger strike" or "over eating" to manipulate, to control and to subjugate his environment. Elimination, urination and defecation and sometimes spitting are often used by all children to express their resentment, anger, aggression and hostility. A child who has learned the skills of eating and eliminating, may still have "accidents," usually as a means of expressing certain strong emotional experiences, affects or feelings. The basic self-care skills usually viewed as being taught by re-enforcement or establishment of reflex association, are acquired by a concomitant psychological developmental process which must be experienced through a mean-

ingful one-to-one personal relationship with an abiding, caring person. This situation is difficult, if not impossible, to accomplish in an institution. A child will not be cared for by one set of parents, but six

Severely and profoundly retarded children depend even more than normally intelligent children on a one-to-one, mother-child relationship. Due to inherent structure of most modern institutions, such relationships cannot be nurtured, and the suggestion of a state operated institution of many units of five duplex "homes" encircling an activity center is offered.

sets of parental substitutes; three sets representing the three shifts of the day, and another three sets representing the three shifts of relief on the days when the regular staff have their days off. One can see how difficult it will be for the individual child to establish a meaningful relationship with two of the 12 child-care workers who are taking care of the child's needs and interpreting to him the human relationships with-

* Clinical Director, Kansas Neurological Institute.

Part II of two papers. Part I was published in the September issue.

in which he lives. Furthermore, the three different shifts, owing to their specific assigned responsibilities, will be experienced by the child in different lights. For instance, when the 11:00 p.m. to 7:00 a.m. night shift child-care worker comes on the ward, she will find most of the children sound asleep. Her first contact with the children is her attempt to awaken them in the morning. She may be required by the physician's order to awaken a certain child in the middle of the night to take him to the bathroom for toilet training. What will be the reaction of the child to a stranger waking him up in the middle of the night or early morning and telling him to get up when he would like to linger a little longer under the covering of the warm blankets? In the morning the children are cleaned and dressed for the day, but it is usually not possible for the child-care worker of this shift to take the children to their breakfast. This pleasant task of feeding the children will necessarily be left to the morning shift, 7:00 a.m. to 3:00 p.m. What will be the reaction of the child, who is hungry after having had his previous meal approximately 14 hours earlier, to this child-care worker—a stranger waking him up, getting him dressed and requiring him to remain quiet for an indefinitely long period of time with an empty stomach? Again, the evening shift (3:00 p.m. to 11:00 p.m.) child-care worker comes in the ward when the children are somewhat tired and exhausted from a full day's activity. Usually one to two hours after supper it becomes the expressed responsibility of the child-care worker of this shift to clean the children, to change their clothes into pajamas, and to get them ready for bed. What will be the reaction of the child towards the child-care worker of this 3:00 to 11:00 p.m. shift? Child-care workers of the morning shift (7:00 a.m. to 3:00 p.m.) are usually seen by the children as the ones giving them the most pleasure, since these workers are responsible for feeding them and taking them to the various games, sports and activities. Under such artificial situations, it is so easy for the child to see a certain worker as an all-giving individual, towards whom the child may develop insatiable demands for more; and to see a certain other worker as an unreasonably demanding and non-giving individual towards whom the child will develop only hostility, fear and resentment with no reasonable chance to nurture a loving relationship. This situation puts an almost impossible task of integration between shifts. Furthermore, the child may be "saved" from the normal, painful experience of inconsistency within one individual only to be thrown into an unreal world of pure white and pitch black. He will not be prepared to face the real world, which is mostly gray, and to establish adequate interpersonal relationships, which are normally a blend of human characteristics.

The importance of motivating the individual child to wish to manage the natural expression of his impulses, primitive and often antisocial, becomes an even more essential and urgent measure in the treatment and training of a severely and profoundly retarded child. Every individual has to learn to express, to control, to sublimate and to modify his sexual and aggressive instinctual impulses and drives during his childhood days, since these impulses expressed in the primitive, unmodified manner will not be tolerated, not to say accepted, by society. Normal children learn to do this through their love and desire to please their loving parents, and to some extent also through their fear of displeasing the caring ones, and thus of losing them. It is even more important for a severely or profoundly retarded child to learn to control the antisocial expression of his primitive impulses. A severely or even profoundly retarded individual may be more accepted if he is neat and clean and has good control of his destructive and aggressive drives. This also goes for his oftentimes harmless curiosity, particularly in the field of sexual activity. This can be accomplished only through giving the retarded child an opportunity to work through various masteries such as eating and toilet training within a trusting one-to-one interpersonal relationship.

We can see that we have heroic expectations of our child-care worker or psychiatric aides, who are oftentimes 18 to 20 years old, unmarried individuals. We expect them to perform the mothering task, to help the retarded children not only to learn the skill of self-help but also to live out the whole developmental process while going through the training of those basic self-care skills. What a frightening as well as challenging experience this must be for these young child-care workers! How easy will it be for a conscientious child-care worker to be afraid of doing the wrong thing and thus do nothing? She will see the simple act of finding out if the child has a fever or of cleaning a superficial skin abrasion as a professional medical procedure requiring the personal attention of a nurse or a physician, forgetting that every "normal" mother does these tasks innumerable times at home. She will observe the flexion and extension of a spastic extremity while the child is enjoying a warm bath in a tub as a special physical therapy that only a professionally trained physical therapist can undertake. She will see the coloring of a picture book with crayon or the threading of wooden beads or the cutting of pictures out of a magazine as prescribed occupational therapy that only a professionally trained occupational therapist should do. She will see the counting of fingers or the association of red color with danger signal as special academic teaching that only a certified teacher of special education could do. It is true that the child-care worker will need to understand the

basic principles involved in nursing, in physical therapy, in occupational therapy and in teaching; and that he or she should try to employ these principles in the total care and treatment or training of the retarded child. But this certainly does not mean that a child-care worker must be a trained nurse, a skilled physical therapist, an experienced occupational therapist, and a certified teacher, all four in one person. Aside from the fact that we cannot afford financially to engage such a highly trained child-care worker, we can hardly, if ever, find an individual well trained in so many different fields. What we need are mature child-care workers who can cultivate a helpful, basic, mothering relationship with the retarded child and who can have a general understanding of the principles of the many disciplines in the total care of the retarded child. Under the guidance and assistance of the trained personnel in the various fields she may be able to develop skills in some of the disciplines but this should never substitute for or dilute her child-care function.

It becomes the responsibility of the physician in charge of the total treatment program of the severely and profoundly retarded children, to help these child-care workers develop such maturity. It is necessary for those workers to learn the basic principles involved in these specialties. It is even more important for them to feel free and comfortable to employ these principles in their daily work of caring for these children. This feeling of security and sense of freedom cannot be accomplished through strict authoritative discipline, certainly not punitive measures, since the child-care workers will feel that they cannot be right on their own and must always look to their supervisor for direction. If this complete submission and total dependence is what the child-care worker sees as essential in his or her own growth, he or she will also demand slavish compliance and excessive dependency of the children. The end result may be a group of well disciplined children, who become completely lost without the child-care worker and manifest chaotic, primitive and uncontrolled behavior without this direction. This feeling of security and sense of freedom also cannot be accomplished by allowing the child-care workers to do whatever they feel like doing without any supervision or ways to find out the whys and hows of what they are doing. They may feel that it really does not matter what they do or how they do things relative to the care of the children. When this attitude is present in the child-care worker, the children will respond in kind and they will express whatever their instinctual drives dictate and will never learn to sublimate or control their antisocial impulses. The child-care workers need to feel completely comfortable in discussing with their supervisor and other members of the clinical team the problems arising in interaction with the children in order to understand

what they are trying to do, the effect of their behavior on the child's development, and the measures to help in furthering the development of whatever is present in the natural endowment of the child. The child-care worker should feel well motivated to further his or her own growth, to know her own capabilities and deficiencies, and to utilize whatever is available in her environment, her immediate supervisor and team members from other disciplines to help his or her own growth.

Since a severely or profoundly retarded individual thinks concretely and has difficulty in abstraction, it is even more important for him to have a satisfying mother-child relationship to motivate him to learn, to desire to improve himself, and to abide by the social mores. In such a situation the attitude, impression and feeling of the mother-substitute about any subject or act are keenly experienced by the retarded individual and determine to a great extent what attitude, impression and feeling the retarded individual will develop. After the severely or profoundly retarded individual has learned the basic self help skills and has experienced the processes connected with mastery of these skills, he is ready for other tasks. When the retarded individual reaches puberty; physiological sexual development and interest in sexual activity present a very real and difficult problem. When an eight-year-old, severely and profoundly retarded child first learns to hug and kiss, these acts are considered fun and are often encouraged. But when a 14-year-old pubertal retarded individual hugs and kisses, these acts are given adult sexual connotation and this retarded individual will be considered by the whole community as a danger and a menace to society. If it takes eight years for the retarded child to learn to hug and kiss, how can one expect the same individual to unlearn these acts in six years? How can it be interpreted to and understood by the retarded individual that after puberty, hugging and kissing become acts which can only be practiced in very special circumstances? To the severely and profoundly retarded youth this hugging and kissing probably do not have sexual connotation, but to the "normal environment" these acts are interpreted as a warning signal that this retarded youth is a sexual maniac and must be isolated from society. We must admit that there are probably many more normally intelligent youths who have difficulty in handling their sexual problems but we never consider isolating them.

In this industrialized nation, almost every kind of work, even farming, is mechanized. Human manual labor is gradually being replaced by robots, and intellectual labor is being replaced by IBM machines. There are very few jobs which can be filled by retarded individuals, not to say severely and profoundly retarded individuals. Some day, even the raking of fal-

len leaves on the lawns and sweeping of snow off the driveways may be done by machines. It will be increasingly more difficult for the retarded individuals to work to maintain self prestige and dignity. The normally intelligent persons may find motivation, encouragement and support from an abstract concept, such as patriotism, immorality, etc. The severely and profoundly retarded persons, who have great difficulty or may be incapable of thinking abstractly, will necessarily depend on a person to sustain him, to give him a meaning to life and to provide for him a support in time of distress and discouragement. How important it is for a severely and profoundly retarded individual to establish a meaningful relationship with one adult person early in life, to whom he can turn for his emotional nourishment.

A Suggestion for Consideration

We should seriously question the desirability of the severely and profoundly retarded children remaining in a big state institution. These retarded children will undoubtedly receive better care, with both physical and emotional nourishment, in privately owned or state operated nursing homes. In such a home a couple or a "cottage mother" will form a one-to-one, mother-child relationship with probably five to six severely retarded children. These homes should be established in bigger cities where medical services, particularly pediatric, orthopedic, neurologic, psychiatric and other special services, are readily available; because these severely and profoundly retarded children are unusually susceptible to all kinds of infectious diseases and are frequently suffering from associated orthopedic, neurologic and psychiatric ailments.

If one were to accept the concept of a state operated nursing-home-like institution, one may seriously consider the following suggestion. Instead of the present general practice of housing 40 to 60 children in a ward, the suggestion would be to house the 60 children in a unit of five duplex "homes." Each "home" will have six children under the care of two child-care workers or housemothers or a housemother and a house father, depending upon the need of the children. The six children do not need to be functioning at the same level intellectually as in normal homes. The two "homes" sharing a duplex building will have readily accessible connecting passageways, so that at time of emergency, the housemother in one home can call on and get assistance from the other house mother. The basement can be used by the children in inclement weather. Within the circle of five such duplex "homes" will be an activity center. The activity center will be staffed with a physician, social worker, adjunctive therapist, clinical psychiatrist and nurses, the usual "psychiatric team," who will assume the

responsibility of instructing, directing, supervising and supporting the house mothers in the treatment and care of the children and also directly working with the children. These people will work with the children only eight hours a day as in a day hospital, except that the physician and nurse should be available throughout the 24 hours of the day.

The house mothers and fathers will have the major responsibility of caring for and treating these children. They will have a 24-hour work day, and live with the children as in normal homes. In the day time, the children will be taken to the activity center for from one-half hour to two hours twice a day, once in the morning and once in the afternoon. During these periods the house parents will have the opportunity to rest from the responsibility of the care and treatment of the children. This is often very necessary for any child-care worker to regain their own strength. We have observed that many honestly sincere and devoted parents of severely and profoundly mentally retarded children, clearly express the feeling that if they can get some relief for some part of the day and of the week, they will be able to give better care to their children. A kitchen may be located in the activity center or another main center but the children will have their meals in "homes" with their house parents. Such a plan will facilitate the establishment of the very important meaningful one-to-one adult-child relationship, and also avoid putting unlimited demand on the child-care worker or the house parents.

In bigger cities, the state may want to build an institution with many such units. In smaller cities, the state may want to build an institution with only a few units. This will make it possible to have smaller institutes with fewer units in the several parts of the state, to allow natural parents to visit their institutionalized children and to allow these children to develop in a small home rather than a big impersonal institution atmosphere. One may even hope that natural parents may want to keep their children at home and bring them to the activity center in the day time, at which time the activity center becomes the day hospital and its facility and function can be further expanded.

Summary and Conclusion

1. Severely and profoundly retarded children depend even more than normally intelligent children on a rich, warm, rewarding, understanding and supporting, one-to-one, mother-child relationship. Due to inherent structure of most modern institutions, such relationship cannot be nurtured where six different sets of parent-substitutes are responsible for the care and treatment of the retarded child.

(Continued on page 463)

Day Treatment Program

The Use of a Day Treatment Program in a Comprehensive Mental Health Center

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ALFRED PAUL BAY, M.D.,** *Topeka*

Rationale

EXPERIENCE through the years in treating and studying psychiatric patients has led to further understanding of potent factors influencing human behavior in healthy and unhealthy directions; consequently, treatment methods and techniques are being modified and developed accordingly. One important development in recent years has been the "day hospital." Many claims concerning the advantages of day treatment over full time hospitalization have not been substantiated by controlled studies or adequate data. Further investigations of issues, such as the type of patients best suited to part time hospitalization, the most effective therapeutic modalities in a day program and what happens to patients and their families during the period of day treatment are essential. The program at Topeka State Hospital which opened in April hopes to demonstrate its usefulness as a part of a comprehensive mental health center. Pertinent data records will be kept to clarify some of the issues regarding the functions of a day center as reported by other workers:

- (1) The discouragement of institutionalization and regression, at the same time explore and mobilize patient's existing assets;^{1, 4, 6, 12}
- (2) encouragement in an active rehabilitation program with less interruption in family and community contacts;^{1, 3, 12}
- (3) prevention of relapses in discharged psychiatric patients;^{7, 11}
- (4) an additional diagnostic and treatment tool for outpatients;^{1, 2}
- (5) reaching individuals at earlier stages of their illnesses^{5, 7, 9} through public education and an informal treatment atmosphere where conditions simulate actual life experiences.^{1, 7} (There would be less "shock" or "stigma" which some patients feel at being admitted to a mental hospital);
- (6) greater involvement of the family^{4, 6, 8, 9} in

the patient's treatment program when indicated, enabling a better understanding of patient-family interactions;

The new day service is part of the comprehensive mental health program at Topeka State Hospital. Operating on the assumption that mental illness may be a psychosocial problem which might be best approached by maintaining the patient in his family and community while treatment is carried out, the day patient lives at home so that personal ties and social responsibilities may be continued.

The program hopes to clarify further the effects of such a day service in a state hospital, criteria for admission, and the nature and scope of treatment most effective and suitable in such a setting.

- (7) the belief that in-patient admission rate may be lowered by the work of a day treatment center.^{7, 10} However, the day program will also come in contact with more cases which could lead to more in-patient admission;

- (8) economic advantages have been reported by some,^{1, 3, 4} but in view of a possible higher staff-patient ratio in a day treatment center setting, actual cost of operating day services might not be less expensive. Whether cost per case-illness is less by day treatment over in-patient treatment, and whether briefer stay will hold true in the case of day treatment need to be clarified further.

A service as such may be best described as "Day Service" which includes a day center, and other services beyond the physical setting itself. "Day hospital" usually denotes a well-structured and supervised setting, while "day care center" a mainly rehabilitative unit. Since this program is primarily to pro-

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vide service to Kansas citizens, research oriented studies to clarify above issues will only be the by-product of an ongoing clinical program.

The Treatment Program

Day treatment may be conceptualized as an integral part of a comprehensive mental health program in Topeka State Hospital. It combines individual, family, group, medical and activity therapy according to the needs and psychopathology of each case. The basic goal of treatment is the rapid resolution of symptomatology that is disruptive to the individual's ego integration and hinders his personal, social and vocational adjustment. Emphasis is placed on the patient's healthy functioning with an attempt to hold regression to a minimum.

The general milieu is informal with increased mutual patient-staff responsibilities and more reliance in the patient's abilities to establish group controls. It encourages the patient to assume more personal responsibility for his welfare and his treatment. He is encouraged to spend as much or as little time with our program as is therapeutic for him. Although informal, a structured and scheduled program is provided for each patient according to the needs. Flexibility in the program makes possible the planning of a schedule with consideration of the constellation of figures in the patient's current life. Special emphasis is placed on family and life situations, in order to work with relatives to whom the patient must return after his hours at the day center. They may come for regular meetings with our staff or work along with the patient during the entire day. The family may be a locus of psychopathology, and therefore changes must occur with them as well as the patient for lasting therapeutic gains.

The patients are assigned to a staff group-leader who has up to eight patients in his group. They meet three times a week. Such meetings emphasize meaningful self-expression, exchanges and communication. Group therapy (based upon psychodynamic principles) is held several times a week to help them recognize and understand their underlying difficulties as well as to relate to one another. A pre-employment group which meets once a week is conducted by the physician and a state vocational counsellor. Patients who are preparing themselves for employment may participate regularly to discuss their apprehensions about seeking employment. Psychodrama technique may be introduced to simulate actual job interview situations, which frequently points up patient's attitude and sensitivities in relating to prospective employers. The vocational counsellor serves not only as a consultant to the type of training or job best suited for a specific patient but also as a member of the team working with staff and patient in the coordina-

tion of employment. The patients' families are seen regularly by staff whether individually or in groups. Plans are set to have patient-spouse groups where focus will be upon marital problems. Patient government, sheltered work shop and ex-patient club concepts are also anticipated to become integral parts of the total program. Conjoint family therapy can be made available when so indicated. Staff make visits to patients' homes when indicated to help evaluate the family situation.

Patients participate in prescribed activities at the center, whether individually or in groups. Activities are not confined to within the center, and community resources are used when they are helpful to the patients' progress. An active two-way volunteer program (patients to community and vice versa) is one of the foci in the over-all treatment program. Vocational rehabilitation and formal employment may become an integral part of total treatment effort. At present the day program is in operation five days a week from 8:00 a.m. to 5:00 p.m., and in the evenings from 5:00 p.m. to 8:00 p.m. each Monday and Wednesday.

Admissions

The day program can best work with patients 18 years of age and older. It is essential that individuals come voluntarily and have means of transportation to and from the setting. The openness of the setting and the limited extent of supervision available precludes admission of highly disturbed, self-destructive, or overtly aggressive patients.

Admissions will be arranged and scheduled in advance, if at all possible, through referring agencies. Self-referrals will be encouraged to contact our out-patient clinic. Once the nature of the patient's illness and treatment goal are clarified with the day service staff, a definite admission arrangement is then made.

Referrals

Referrals may come from other services within our hospital as well as community resources. In-patients who are ready to leave the hospital may be benefited by the daytime treatment while spending evenings and nights at home. Such arrangement has been known to facilitate separation process and can shorten duration of hospital treatment. The out-patient service will be in a better position to screen and refer patients to the day program. In some instances the day program could be utilized in conjunction with psychotherapy, diagnostic examinations, and as a supplement to out-patient consultations. Referring physicians and social workers as well as other staff may wish to follow their patient's progress in the day setting, and work closely with the staff.

Although the day service will provide diagnostic consultations, to minimize duplication of functions of

the in-patient and out-patient services, extensive psychiatric examinations will be referred to the in-patient and out-patient services.

Self-referrals will be directed to the out-patient drop-in service for assessment as to the most appropriate treatment facility for the individual. Since the day service staff participates in a combined pre-intake meeting with the out-patient service, definite arrangements are made at this meeting to admit suitable candidates. Direct referrals from the community will be channeled through our in-patient and out-patient services for further assessment when indicated.

The importance of continuity in patient-staff relationship (during and after intramural transfers, staff from one service may continue to work with his patient) and the ease of transferring a patient from one service to another within Topeka State Hospital are recognized as useful concepts in our continued effort toward a comprehensive mental health program.

Summary

The new day service is a part of the comprehensive mental health program at Topeka State Hospital. It operates on the assumption that mental illness may be a psychosocial problem which is perhaps best approached by maintaining the patient in his family and community while treatment is carried out. The day patient lives at home so as to maintain personal ties and preserve social responsibilities. Such an approach may also minimize the adverse effect of separation from the patient's native environment and loss of self-respect common to individuals who are removed and confined from their life responsibilities. This service thus provides some patients with "part-time hospitalization." It may serve in some instances as an intermediary step for in-patients toward readaptation to family and community living.

The open and informal setting simulates, as closely as possible, actual life situations, and imposes a minimum of restrictive structure or protective supervision without impairing therapeutic effectiveness of the service. The therapeutic milieu aims at greater patient responsibility for his treatment and his participation in recommended activities. Opportunities are unlimited in the utilization of community resources. It is hoped that in such an open and informal setting, the public will use this facility in the early phases of mental illness.

The program also hopes to clarify further the various effects of such a day service in a state hospital setting, criteria for admission, and the nature and scope of treatment most effective and suitable in such a setting.

References

1. Bierer, J.: *The Day Hospital, An Experiment in*

- Social Psychiatry and Psychoanalytic Psychotherapy*, H. K. Lewis and Co., Ltd., London, 1951.
2. Bernard, R.; Robbins, L. L.; and Tetzlaff, Fred M.: Day Hospital as an Extension of Psychiatric Treatment, *Bull. of the Menninger Clinic*, 16:50, 1952.
3. Proceedings of First National Day Hospital Conference U.S.A., June, 1958. Published by Am. Psychiat. Assoc.
4. Freeman, H. L.: The Day Hospital, *World Mental Health*, Vol. 12, No. 4, Nov., 1960.
5. Kramer, B. M.: *Day Hospital: A Study of Partial Hospitalization in Psychiatry*, Grune and Stratton, New York, 1962.
6. Moll, A. E.; Lieberman, D.; Walsh, J. F.; and Weinstein, G.: Part Time Hospitalization (Day Treatment Service), *Mental Hospitals*, Feb., 1963.
7. Farndale, J.: *The Day Hospital Movement in Great Britain*, Pergamon Press, New York, 1961.
8. Lindsay, D.: Social Group Work in a Day Treatment Center, *Mental Hospitals*, Sept. 1963.
9. Kris, E. B.: Rehabilitation: Day Hospitals, *Clinical Med.* 70:1091-1096, 1963.
10. Bonn, E. M. and Kraft, A.: The Fort Logan Mental Health Center—Genesis and Development, *J. of Fort Logan Mental Health Center*, Vol. 1, pp 17-27.
11. Caplan, Gerald: *Principles of Preventive Psychiatry*, New York, Basic Books, 1964.
12. Epps, R. L. and Hanes, L. D.: *Day Care of Psychiatric Patients*, Charles C Thomas, Springfield, Ill., 1964.
13. Barton, W.: *Administration in Psychiatry* (pub. Charles C Thomas, Springfield, Ill., 1962) chapter on "The Day Hospital," p. 167-170.
14. Bierer, J.: Theory and Practices of Psychiatric Day Hospitals, *Lancet* (November 21, 1959) 901-902.
15. Boag, T. J.: "The Day Hospital as a Therapeutic Community," in Denber, H. C. B. (editor) *Research Conference on Therapeutic Community*, Springfield, Ill., Charles C Thomas, 1959, pp. 165-176.
16. Boag, T. J.: Further Developments in the Day Hospital, *Am. J. Psychiat.* 116: 801-806, 1960.
17. Cameron, D. E.: "The Day Hospital" in *Practice of Psychiatry in General Hospitals* (Bennett, Hargrove and Engle), University of California Press, Berkeley, Calif., 1956.
18. Chen, R.: A French Mode of Sociotherapy, *Am. J. Psychiat.*, Vol. 121, No. 1, pp. 17-20, 1964.
19. Cosin, L. C.: The Place of the Day Hospital in the Geriatric Unit, *Inter. J. of Soc. Psych.*, 1, 2, 33-41, 1955.
20. Freyhan, F. A. and Mayo, J. A.: Concept of a Model Psychiatric Clinic, *Am. J. Psychiat.*, Vol. 120, pp. 222-227, Sept., 1963.
21. Greenblatt, Milton; Levinson, Daniel; and Klerman, Gerald: *Mental Patients in Transition*, pub. Charles C Thomas, Springfield, Ill., 1961. Chapters on "The Day Hospital, the Community and the Psychiatric Patients," by Bernard Kramer, pp. 72-75 and "Prevention of Re-hospitalization Through Relapse Control in a Day Hospital" by Else Kris, pp. 155-162.
22. Home Treatment Service of Boston State Hospital, *Mental Hospitals*, Oct., 1964.
23. Kraft, A.: A Combined Full Time and Part Time Program, *Mental Hospitals*, 14:376, July, 1963.
24. Kramer, B. W.: Day Hospital as Element in Comprehensive Psychiatry, *Mental Hospitals*, 14:170-171, 1964.
25. Margolis, Philip M.: The Varied Uses of Part Time Treatment, *Mental Hospitals*, Oct., 1964.
26. Meltzoff, Julian: Day Center in the V.A. Out-Patient Clinic in Brooklyn, *Psychiat. Qlty.*, April, 1961.
27. Ozarin, L. D.; Brown, B. S.: New Directions in Community Mental Health Programs, *Am. J. of Orthopsych.* Jan. 1965, Vol. XXXV No. 1.
28. Rapoport, Robert N.: *Community as Doctor*, pub. Charles C Thomas, Springfield, Ill., 1960.
29. U. S. Government Department of Health, Education, and Welfare, Public Health Service: Information brochure on "A Comprehensive Psychiatric Center."

Metastatic Cancer

Aggressive Management of Metastatic Renal Carcinoma

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THE SURGICAL TREATMENT of cancer often requires an aggressive approach. When successful, surgery may offer many years of useful life to an otherwise doomed individual. The case described herein represents the long-term survival of a patient with adenocarcinoma of the kidney who entered the hospital with pulmonary and rib metastases already present.

In general, renal tumors offer a somewhat better prognosis than many other cancers. Dick and Flint report that 46 per cent in their series lived five years or more. They were able to follow 36 patients with various kidney tumors. They found that lung and bone were the primary sites of metastases, in that order. Recently, Fetter and Snyder reported 195 primary renal tumors with general survival rates of 52 per cent at three years, 47 per cent at five years and 37 per cent at ten years.

Our case also points out the value of a complete genitourinary study in patients who have metastatic disease. This is in agreement with the advice of Greenberg and Young who have described features of metastatic lung disease indistinguishable from primary bronchogenic carcinoma. Wilkins, reporting on management of pulmonary metastatic lesions, found 16 cases originating in the kidney and 17 in the colon or rectum. These accounted for half of his 67 cases and offered the most favorable prognosis. Likewise, Chute, Ireland and Houghton report distant metastases from unsuspected renal carcinomas. They state that about one third of the patients have metastases at the time the primary is discovered. One of their patients presented himself with a solitary metastasis eight years before the primary tumor was discovered. In January, 1963, Robson reported 62 cases of carcinoma of the kidney treated by thoraco-abdominal nephrectomy. Nine patients had local extension or distant spread and eight of these died within one year. McClanahan and Bonann point out that bone metastasis may be the first evidence of the presence of tumor. They postulate metastases through the blood stream with tumor cells reaching general circulation by way of the renal vein. They state that

bones affected in order of frequency are humerus, spine, femur, pelvis, ribs, bones of the feet, skull and sternum, with single deposits usually being found in the long bones. They recommend removing primary growth and metastasis when the secondary bone tumor is found.

A case is reported illustrating the treatment of carcinoma of the kidney presenting with pulmonary and rib metastases. The patient has been treated with multiple operations over a seven-year period with gratifying results. An incidental esophageal diverticulum was likewise treated. A plea is made for an aggressive attitude in the treatment of renal tumors since the spread is often bizarre. The prognosis, though unpredictable, may be favorable for long-term survival.

Our case is interesting because he was originally admitted with suspected tumors of the left lung and left third rib. He was later found to have metastatic lesion in the right humerus and, finally, a lesion in the right lung was removed. His recovery was uneventful following all of his operations and the patient continues to be in good general health.

Case Report

This 66-year-old white male was first admitted to the Wichita Veterans Administration Center Hospital January 20, 1958, for treatment of a possible malignancy of the left lung with metastasis to the left third rib. For the previous year the patient had been having a cough. The cough had produced as much as one-half cup of whitish sputum per day. The patient had no weight loss, no hemoptysis, but had noticed some moderate dyspnea. For two years he had noticed some dysphagia with the sensation that solid food would get caught in the pharyngeal-esophageal

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Figure 1. Planogram demonstrates a destructive process involving anterior end of third rib associated with a soft tissue mass. Possibility of osteochondroma or chondrosarcoma suggested by roentgenologist.

area. On physical examination the veteran presented the appearance of good health and was in no acute distress. There was a prominence over the left third rib, anteriorly, extending from the costal chondral junction to the anterior axillary line, which demonstrated some slight crepitation on pressure. The remainder of the physical examination was normal. Blood count and urinalysis were within normal limits. Smear and culture from bronchial washings showed only pneumococci. X-ray revealed a definite bone-destructive lesion associated with a soft tissue mass in the third rib anteriorly (Figure 1). Intravenous pyelogram showed questionable pathology of the left kidney (Figure 2). Retrograde pyelogram revealed a suggested filling defect in the lower pole of the left kidney (Figure 3).

On February 24, under general anesthesia, a segment of the left chest wall was excised, including a tumor of the left third rib. The chest wall was reconstructed with fiber glass. The pathology report indicated resected rib tumor which was possibly metastatic adenocarcinoma of the kidney. The Tumor Board recommended a left nephrectomy. On April



Figure 2. Intravenous urogram shows a filling defect on the left and evidence of enlargement of lower pole of the kidney.



Figure 3. Retrograde pyelogram suggests a filling defect of the lower pole of left kidney.

15, 1958, a transperitoneal left nephrectomy was done by first ligating the renal artery and vein and then removing the kidney and surrounding capsule intact. The kidney weighed 587 grams. The pathological report showed a clear cell carcinoma involving the lower pole of the kidney. No gross evidence of metastasis could be seen in the renal vein. Radiation therapy was not recommended. The patient was discharged April 26, 1958.

This patient was again admitted in June, 1959, with a chief complaint of dysphagia and spitting up of undigested food. He also complained of bringing up a half cup of sputum daily. On physical examination a large mass in the left anterior cervical area was noted. It was thought to represent a diverticulum of the esophagus. This mass moved upon swallowing. Esophagram revealed a large Zenker's diverticulum. On June 11, excision of the esophageal diverticulum was performed with endotracheal anesthesia. The patient had an uneventful recovery with a good functional result. He was discharged June 21, 1959.

Mr. S. was readmitted November 29, 1961, for the treatment of a fracture of the right humerus. Roentgenograms on admission revealed a pathological fracture of the right humerus due to an osteolytic lesion (*Figure 4*). No other metastases were found.

The patient was presented to the Tumor Board and it was recommended that a disarticulation of the right upper extremity be done. He was operated upon on December 12, 1961; had an uneventful postoperative course, and was discharged December 30, 1961. The pathological report showed metastatic renal cell carcinoma, right humerus, with pathological fracture.

The patient was readmitted to the Wichita Veterans Administration Center Hospital in March, 1962, because of the incidental finding of a lesion in the right lower lobe of the lung (*Figure 5*). Planogram and lateral films localized a two centimeter nodular density in the lung parenchyma. No other metastatic lesions were noted on bone survey and physical examination. Bronchoscopy and bronchograms were within normal limits. On April 3, 1962, a right lower lobectomy was performed. The pathologist reported metastatic clear cell carcinoma. The patient made an uneventful recovery and was discharged on April 16, 1962, subject to further observation. The veteran returned for Tumor Board evaluation periodically with no evidence of metastatic lesions on physical examination or x-ray until two years later. He was readmitted March 18, 1964, with cough, mild weight loss and a suspicious x-ray shadow in the right chest. The patient was placed on supportive care and the Tumor



Figure 4. Shows pathological fracture of right humerus due to an osteolytic lesion.

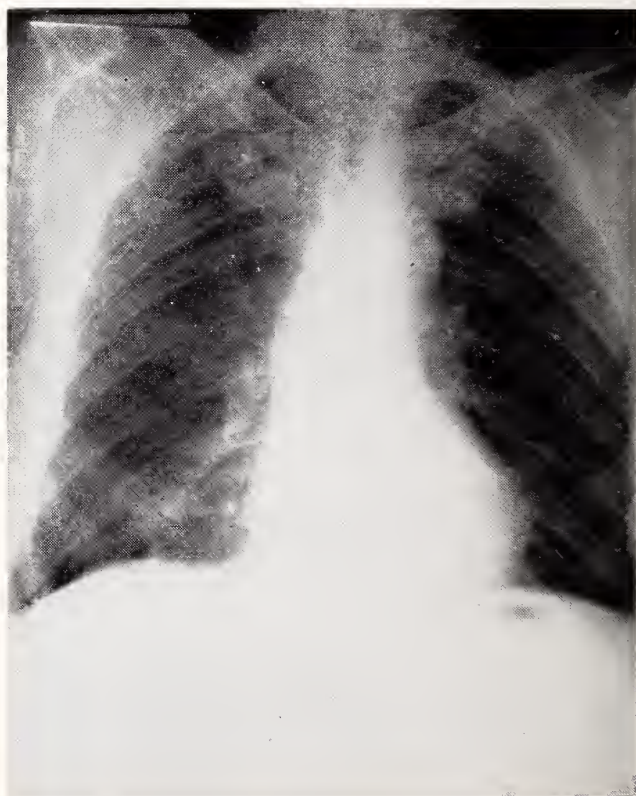


Figure 5. March, 1962. Posterior-anterior view of chest shows lesion in right posterior basal segment.

Board advised x-ray therapy. After four treatments, however, it was decided that a second exploration should be carried out. Therefore, on April 22, 1964, a second thoracotomy was done. A resection of the anterior superior segment of the right lower lobe revealed no tumor. The pathology report indicated organizing pneumonitis. There was no evidence of malignant disease in the right chest. He subsequently was discharged—improved.

The patient was last seen by the Tumor Board December 9, 1964, with very few complaints. It is expected he will return at three-month intervals for an indefinite period.

Conclusion

From past experience it is expected this patient will show further disease since metastases from hypernephroma can be discovered many years after nephrectomy. Rosof and Rubin report a case in which there was no evidence of metastatic disease until 20 years after the initial diagnosis.

Addendum

The patient was readmitted July 28, 1965, complaining of constipation and left costal-vertebral angle discomfort for one month. Examination supplemented by extensive laboratory and roentgen studies revealed only diverticulosis and an irritable bowel syndrome.

References

1. Dick, Vernon S. and Flint, Lloyd D.: The Prognosis of Renal Tumors, *Surg. Clinics of North Am.*, pp. 633-643, 1951.
2. Fetter, Thos. R. and Snyder, Allen L.: Survival Study in Renal Cell Carcinoma, *Surg., Gyn. and Ob.*, 117:7, 1963.
3. Greenberg, Benjamin E. and Young, Joseph M.: Pulmonary Metastasis from Occult Primary Sites Resembling Bronchogenic Carcinoma, *Dis. of the Chest*, 33:496-505, 1958.
4. Wilkins, Earle W., Jr.: Surgical Management of Pulmonary Metastases, *Ca, A Cancer Journal for Clinicians*, 13:3 pp. 95-98, 1963.
5. Chute, Richard; Ireland, Elwood F.; and Houghton, John D.: Solitary Distant Metastases from Unsuspected Renal Carcinomas, *J. of Urol.*, 80:6, pp. 420-424, 1958.
6. Robson, Chas. J.: Radical Nephrectomy for Renal Cell Carcinoma, *J. of Urol.*, 89:37, 1963.
7. McClanahan, Charles W. and Bonann, Lewis J.: Skeletal Metastasis from Renal Carcinoma: A Report of 3 Cases with Special Roentgen Features, *Am. J. of Roentgen. and Radium Therapy*, 70:3, pp. 387-400, 1953.
8. Rosof, Bernard M. and Rubin, Richard: Metastasis from Hypernephroma Twenty Years after Nephrectomy: Report of a Case, *JAMA*, 173:8, pp. 896-898, 1960.

Programming for Retardates

(Continued from page 456)

2. Privately owned or state operated nursing homes in a community where services from various medical specialties are readily available may be a better sub-

stitute for the natural homes than the big state institutions.

A suggestion of a state operated institution of many units of five duplex "homes" encircling an activity center is offered. The activity center can be expanded into a day hospital to serve children who are kept home by their natural parents.

BATHROOM SAFETY

Don't slip up on bathroom safety, says *Today's Health*, the magazine of the American Medical Association.

Injury of at least two prominent Americans recently in bathroom falls reminded us once again of the potential hazards. Former President Harry S Truman broke two ribs and sustained cuts on the face when he slipped and fell in the bathtub of his home. Astronaut John Glenn was incapacitated for months after he was injured from slipping on a scatter rug in his home bathroom.

Today's Health offers some pointers on bathroom safety—

- Use suction-type bath mats or non-slip strips in tubs and shower stalls.
- Install wall-mounted grab bars or hand rails near showers and tubs.
- Use skid-proof mats on the bathroom floor. Avoid accident-dealing scatter rugs.
- Fasten shower curtain rod securely. You likely will grab for the curtain if you slip.
- Teach your children to turn on the cold water tap first, then adjust the hot water to proper temperature. This will help avoid scalds.
- Electricity sometimes causes fatal bathroom shocks, because water is an excellent conductor. Never touch an electrical fixture with damp hands or while sitting or standing in water. Keep all electrical fixtures out of reach of the tub.
- Keep a special container for discarded razor blades. Never drop them in the waste basket.
- Use plastic glasses and containers in the bathroom as much as possible. Slivers of broken glass can slash bare feet.
- Locks on doors can trap young children. Be sure your bathroom door can be opened from the outside in an emergency.
- Plastic or safety glass in shower stall doors may prevent cuts should you slip and fall against the door.
- Store medicines and chemicals safely beyond the reach of children.

Drug Reaction

Severe Angina Pectoris and Electrocardiographic Changes After Cafergot® Medication

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A 45-YEAR-OLD LADY entered St. Mary's Hospital October 1, 1964, with a chief complaint of severe chest pain radiating down both arms; she was perspiring and the clinical picture suggested acute myocardial infarction.

The physical findings showed an individual in acute

The rather prompt development of severe chest pain, shocklike symptoms and electrocardiographic changes after the administration of Cafergot® suggests that the drug precipitated the attack. Although the amount administered by this patient does not necessarily constitute an over-dosage, her coronary circulation nevertheless became greatly impaired.

The manufacturers state that this drug is contraindicated in peripheral vascular disease, coronary heart disease and hypertension.

distress. She was perspiring profusely. The pulse was regular, 90 per minute; blood pressure: 100/70; heart: regular rhythm, no murmurs; lungs: clear. The electrocardiogram (*Figure 1*) gave evidence of considerable insufficiency of the coronary circulation in the posterior wall of the left ventricle. The possibility

of a beginning posterior wall infarction was considered. The patient received oxygen and morphine and within a few hours there was considerable relief of all symptoms. An electrocardiogram taken the next morning was essentially within normal limits (*Figure 2*) and the patient had no further discomfort.

A careful history revealed that on the day of admission the patient had a severe migrainous headache for which she had taken two tablets of Cafergot® as an initial dosage; this was followed by one additional tablet at 30 and 60 minutes respectively. One Cafergot® suppository was inserted at the beginning of the attack and repeated in one hour. At this time she experienced a throbbing type of chest pain which became quite severe and radiated into both arms. She entered the hospital by ambulance.

Summary

A 45-year-old female developed chest pain and signs of shock after taking Cafergot® for migrainous headache. The total dosage was perhaps not excessive. All symptoms disappeared within 24 hours after hospitalization and the electrocardiogram returned to normal. This patient is either unusually sensitive to this medication, or there is a pre-existing coronary artery disease of which she was not aware. In that case, the drug was the trigger mechanism that set in motion a coronary spasm resulting in severe angina and transient, but severe, electrocardiographic changes.

Acknowledgement

I am indebted to Dr. Gerald O'Connell who permitted me to see and study this patient.

* Assistant Clinical Professor of Medicine, University of Kansas Medical School; Director of Electrocardiography, St. Mary's Hospital, Kansas City, Missouri.
Cafergot® Sandoz Pharmaceuticals.

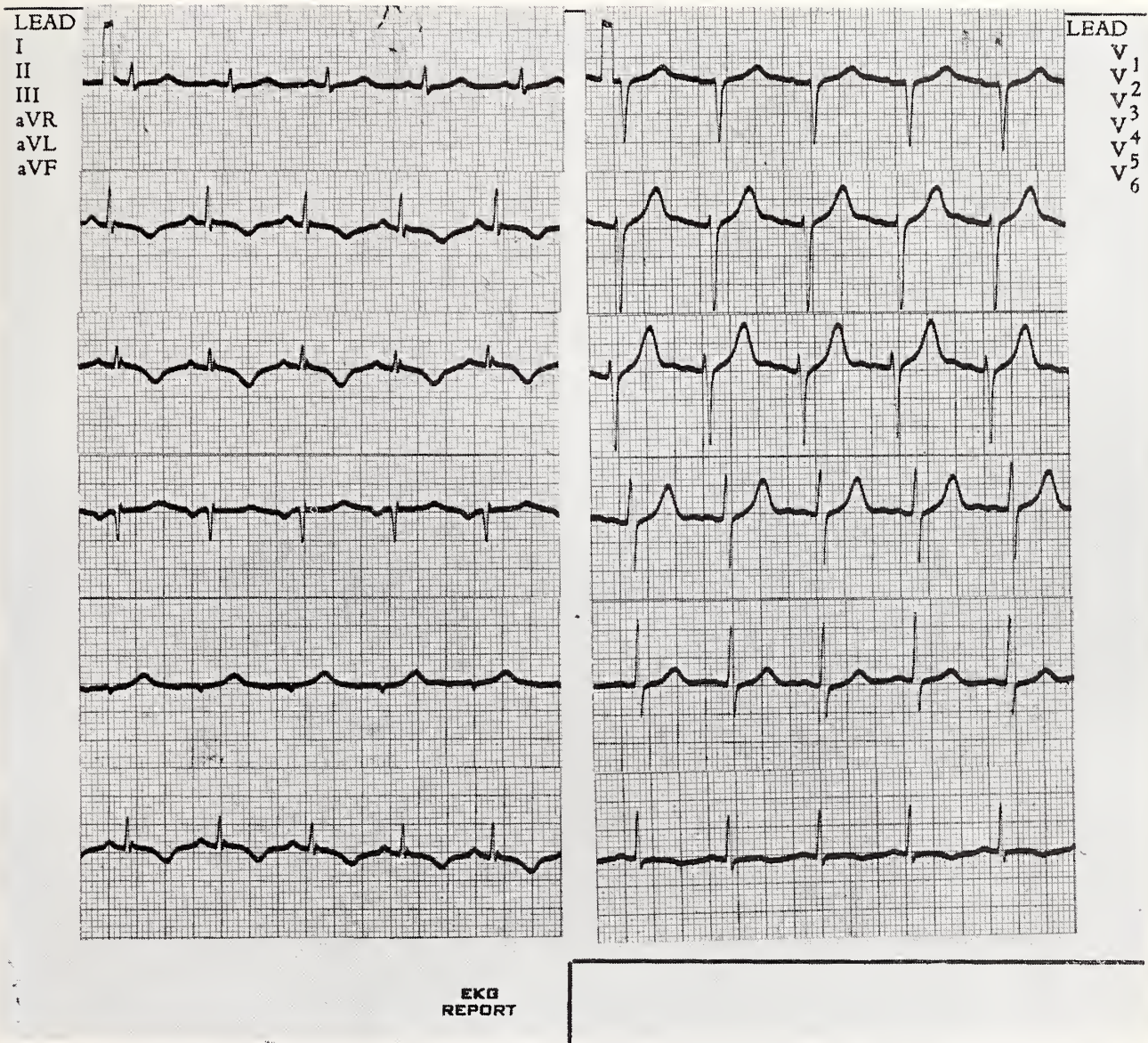


Figure 1. This tracing was taken soon after the patient entered the hospital. The patient had severe chest pain at this time radiating down both arms, and the electrocardiographic changes suggested insufficiency of the coronary circulation in the posterolateral wall of the left ventricle.

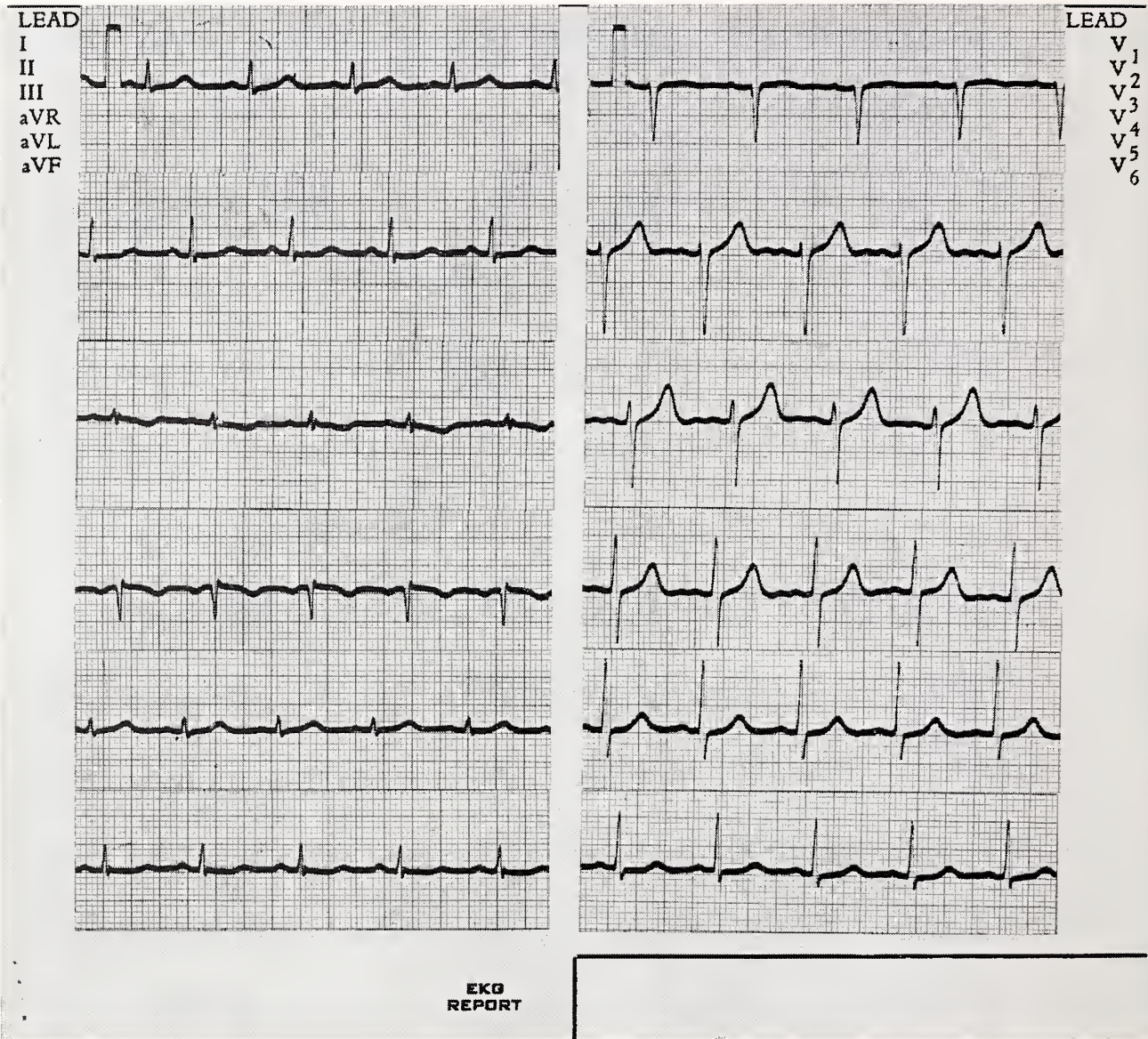


Figure 2. Taken 24 hours after admission. The patient was symptom-free and the electrocardiogram had returned to normal.



Progonoma of the Maxilla

Edited by PAUL S. QUINN, M.D., *Kansas City, Kansas*

Dr. Fred Kittle (Moderator, Surgeon): The tumor for discussion today is a rare lesion but it is one well worth knowing about as will be pointed out by the following discussion. Dr. Simons, will you present the clinical history?

Dr. John Simons (Plastic Surgery Resident): This patient was a three and a half-month-old white female infant who presented with a history of having injured her mouth approximately three weeks prior to admission. The following day her mother noticed a blue swelling of the upper gum. The lesion was noted to enlarge and x-rays showed some destruction of the left anterior maxilla. The infant was then referred to this hospital. No other points of significance were elicited in the history. It was thought that the lesion was not present at birth but had appeared following minor trauma sustained when the infant's mouth struck the mother's shoulder.

Physical examination showed an apparently healthy infant who was well nourished and cheerful. A mass in the left anterior maxillary region was prominent and was approximately 1.5 cm. in greatest dimension. There was a bluish cast in the mucosa over the tumor and the lesion distorted the left upper alveolar ridge lateral to the midline. The lesion did not extend across the midline and it extended laterally and posteriorly to the usual location of the first canine tooth. The lesion appeared to be beneath the mucosa and did not resemble a mulberry-like hemangioma. The impression of the deep-seated nature of the lesion was confirmed on x-ray which showed a cystic lesion in the maxilla and the adjacent primitive teeth were pushed aside by the lesion. Laboratory studies were within normal limits.

At this point we didn't know what we were dealing with, but in view of the history of apparent

rapid growth we felt the lesion should be surgically excised. We then carried out local excision without an attempt at radical maxillectomy. In our differential diagnosis we entertained the possibility of a radicular or dentigerous cyst, but the bluish discoloration of this lesion and the fact that it had grown rather rapidly were both alarming.

Dr. Kittle: What other lesions should be considered in the differential diagnosis of such a tumor mass?

Dr. Simons: The two primary things that we felt should be considered were a cyst of dental origin or a sarcoma. I think that most of us were apprehensively considering this to be a pigmented sarcoma. The lesion was not as black in color as a melanoma, and although it was purplish-blue, it did not have the appearance of a simple hemangioma. It was also considered to be of malignant nature due to the invasion or destruction of bone seen on x-ray examination. Adamantinoma was considered but the coloration of the tumor was in opposition, the age was somewhat young, and most of the adamantinomas we have seen have been in the mandible and not in the maxilla. Odontoma and fibroma were additional possible diagnoses entertained but the real question was whether or not this was a malignant lesion.

Dr. Frank Mantz (Pathologist): Could either a giant cell epulis or a central giant cell tumor be considered in this location?

Dr. Simons: Yes, epulis was mentioned but again I think the age of this infant would be against this. In fact, the age tended to rule out most of the diagnostic possibilities mentioned and led many of us to consider this as a probable sarcoma.

Dr. Mantz: There is one pigmented lesion, however, a yellow pigmented lesion, which does occur in

this area and tends to be congenital. It is referred to as a congenital epulis, but it is actually a granular cell myoblastoma. This tumor originates presumably from Schwannian cells, although originally the tumor was thought to represent primitive muscle cells.

Dr. Simons: Aren't these lesions found primarily in the tongue?

Dr. Mantz: Yes, they are most frequently observed in the tongue of adults but a congenital lesion has been described not infrequently, the so-called congenital epulis occurring in this exact area.

Dr. Simons: In summary we were presented with a tumor in the left maxilla of a three and a half-month-old girl.

Dr. Kittle: Did this lesion feel fluctuant?

Dr. Simons: No, it was firm.

Dr. Kittle: Dr. Tice, may we see the x-rays?

Dr. Galen Tice (Radiologist): The lesion is going to be difficult to demonstrate due to the small size of the x-ray pictures, but a soft tissue mass in the left maxilla can be seen and the teeth in the region have been displaced. A defect in the maxilla is present and we felt this probably represented a dentigerous cyst.

Dr. Kittle: Dr. Simons, do you have any additional remarks regarding the operative procedure?

Dr. Simons: I wish to emphasize only that a radical operative procedure was not attempted. We resected the tumor locally, removing the two left upper incisors and the canine tooth along with the tumor mass, and the resulting defect was closed.

Dr. J. O. Boley (Pathologist): Did it involve the bone or did it peel away from the bone?

Dr. Simons: The lesion did not appear to involve the bone, but there was an indentation of the bone. The lesion was curetted out along the margins.

Dr. Mantz: The specimen which we received consisted of a rounded mass about 1.5 cm. in diameter (*Figure 1*). Enmeshed within the tumor was the root of an incisor tooth, the depression at the tooth site being evident in this picture. The gross description of this rare lesion is very characteristic and the appearance of the tumor is such that once it is seen it is readily remembered. The tumor was composed of fleshy tissue which was primarily gray-white to yellowish-tan with focal areas of blue to black discoloration. A few spicules of bone were present at one margin and microscopic examination showed evidence of bone invasion as well as new bone formation at this site.

Microscopic examination revealed a very cellular neoplasm with nodules of cells enmeshed in a fairly dense and fibrous stroma. Two rather distinct cell types were evident, the first and most prominent being composed of very small, lymphocytoid cells (*Figure 2*). On close inspection these appeared to be unipolar

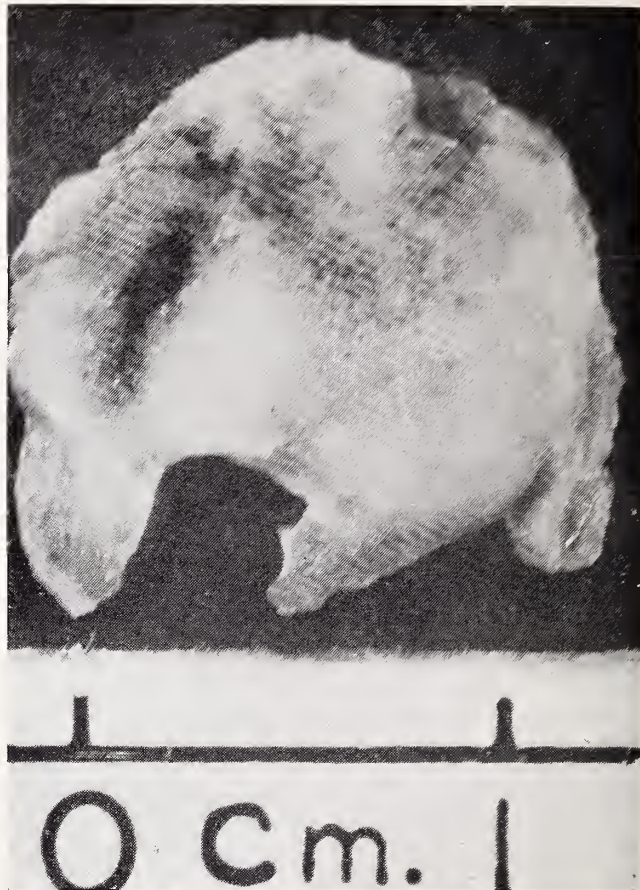


Figure 1. Progonoma. Gross appearance. Note cleft occupied by root of incisor tooth and pigmented areas.

or bipolar and they tended to be arranged in solid alveolar masses. If I were asked to make a comparison, I would say that these cells most resembled the cells of neuroblastoma or of a medulloblastoma and suggest the possibility of primitive neural origin. The second type cell (*Figure 3*), not nearly as frequently observed as the first, was much larger. These cells likewise tended to be arranged in alveolar clusters and much more frequently showed evidence of a central luminal structure. These cells tended to be polyhedral or cuboidal in shape, the nuclei were relatively large and they showed a great abundance of cytoplasm. They were frequently found to contain dark brown pigment which histochemically gave the reaction of melanin. This then is a melanin-producing lesion. In some areas there was an apparent transition from one cell type to the other, the neuroblastic type cells merging with the larger epithelioid cells. Because of this lesion's invasive capacity it is thought by us to be likely to recur locally, but it is a discrete and well differentiated lesion and we would not expect distant metastasis.

This neoplasm has a long and colorful history. I believe it was first described in 1918 by Krompecher,¹ an Hungarian pathologist. In the first description the

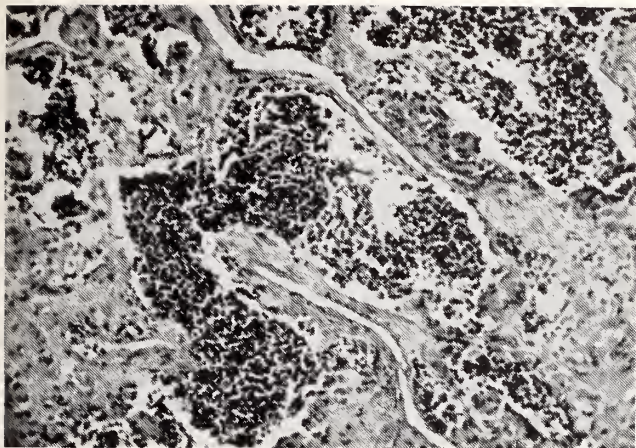


Figure 2. Microphotograph to show neuroblast-like cells.

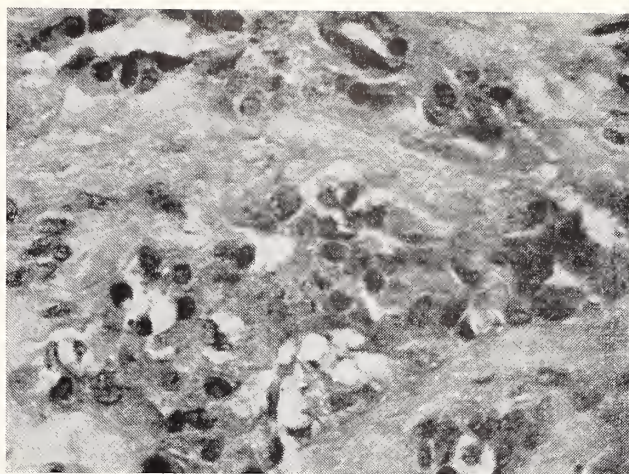


Figure 3. Microphotograph. Epithelial type cells in alveolar arrangement and containing melanin pigment granules.

lesion was named melanocarcinoma of the alveolar ridge. Following the original description additional cases have been reported but the total described is probably less than 30. In 1926, Mummery and Pitts² observed a case and noted the fact that all previous cases that had been described occurred in children. The children were invariably under 12 months of age, they were generally female and the lesion primarily involved the jaws. The greatest incidence was in the maxilla in the area in which the tumor was located in this case. They noted that none of the children had died and were therefore unable to accept it as a melanocarcinomatous lesion. They suggested that it probably was of odontogenic origin and felt that the term melanotic odontome was a more appropriate name. This concept has been held by many to the present time under the more modern term melanotic ameloblastoma. Since their discussion it has been shown, however, that the lesion is incapable of producing alkaline phosphatase and is very low in sulfhydryl radicles,³ features that are common to odontogenic lesions. In addition, two cases have been described in peripheral areas in the skin. One case has been described in the epididymis and two cases have been described within the brain. The latter two were both fatal.

Others have likened this lesion to primitive retinal epithelium. The small, rounded neuroblast-like cells have been likened to retinal epithelium and the larger, more epitheloid, have been compared to the epithelium of the ciliary body, which as you know is capable of producing melanin. As a result of this comparison, the concept evolved that this is indeed a retinal anlage tumor.⁴

On the other hand Stowens, a pediatric pathologist who has observed probably the largest single collection of such cases, three in number, felt that this was not a satisfactory explanation. He objected to the fact that this tumor could occur outside the maxillary

region and he also noted the fact that the eye is relatively well developed at the 7 mm. stage of the embryo at which time the jaws are just beginning to form. He did, however, acknowledge the similarity to neural tissue and thought that this tumor might represent an atavism from some neural structure which may be prominent in lower forms of life and which only goes through precursory development in humans. He cited, in this area of the junction of the medial and lateral processes of the maxilla, the presence of a small neural body known as the organ of Jacobson which is found in lower forms of life and is related to the sense of smell. It represents small invaginations of the mucosa which cover the nasal septum in this area. Thus, we have a good anatomical localization which might explain the development of this tumor. He felt that not all of these lesions were derived from the organ of Jacobson and some other atavistic structures might give rise to them explaining the lesion within the periphery of the body. He cited the fact that tactoid bodies present in the skin of amphibia might likewise give rise to such a lesion and, since ontogeny recapitulates phylogeny, there might be a phase in human embryonic skin development that would correspond to these structures of the amphibians. Rests from these structures could then later give rise to the tumor. In view of this concept, he coined a term which I think is very apt. From the Greek he derived the term *progonoma*, "pro" meaning before and "gonos" meaning germ, the word indicating tumor derived from some atavistic structure present in embryonic life but which ordinarily regresses.

Although this tumor is an extremely rare lesion, it is well worth knowing about. The tumor is readily diagnosed on inspection when seen in this characteristic area. We should recall that this tumor may recur but it is not known to metastasize and the only fa-

talities have been two that occurred in the central nervous system where they infiltrated to such an extent that ventricular obstruction occurred.

Dr. Kittle: Thank you Dr. Mantz. Are there any questions regarding this lesion?

Dr. Simons: Is rapid growth a characteristic feature of this tumor?

Dr. Mantz: I think this lesion may well have been present but imperceptible at birth. The tumor then probably did grow rapidly, and focused attention on this area.

Dr. Kittle: Could you reiterate the age group in which the other lesions have been described?

Dr. Mantz: All lesions, I believe, with the exception of one occurring in the epididymis and one questionable case described within the uterus have been in children under 12 months of age.

Dr. Kittle: From what you have described then we would expect to see most of these tumors occurring in superficial areas.

Dr. Mantz: We would expect to see at least 80 per cent of them occurring in the same area as the tumor in this child.

Dr. Simons: In the 24 cases reported by Stowens, including his group of three and 21 additional cases gleaned from the literature, as Dr. Mantz pointed out all were under 12 months of age and all but three were under six months of age. In the total of 24 cases only three recurred and all three of these were cured by a second simple excision. Thus it is evident that this tumor is not prone to be lethal and in retrospect we probably used the best therapeutic approach with simple excision and curettage.

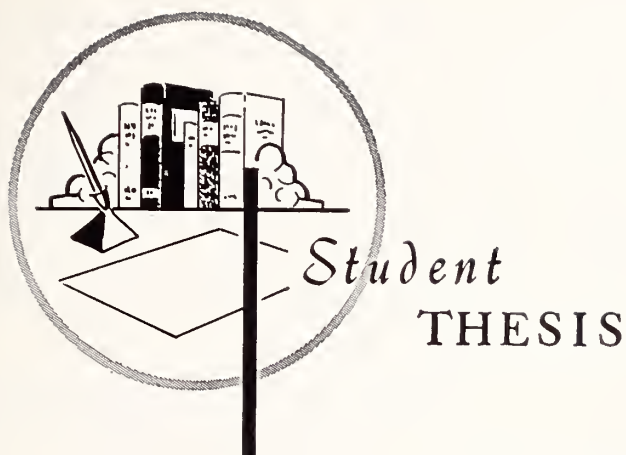
Addendum: This tumor recurred and a second wider operative excision was carried out four months after the initial operation.

References

1. Krompecher, E.: Zur Histogenese und Morphologie der Adamantenome und sohstiger Kiefergeochwulste. *Beitr. path. anat.* 64:165, 1918.
2. Mummery, J. H. and Pitts, A. T.: A Melanotic Epithelial Odontome in a Child. *Proc. Roy. Soc. Med.* 193:11, 1925-26.
3. Stowens, D.: A Pigmented Tumor of Infancy: The Melanotic Progonoma. *J. Path. & Bact.* 73:43, 1957.
4. Halpert, B. and Patzer, R.: Maxillary Tumor of Retinal Anlage. *Surgery*, 22:837, 1947.

NOTICE OF KANSAS BASIC SCIENCE BOARD EXAMINATION

The Kansas Board of Basic Science Examiners will give examinations in the subjects of anatomy, bacteriology, chemistry, pathology, and physiology on November 26-27, 1965, at Kansas State College, Pittsburg, Kansas. Satisfactorily completed applications for examination should be submitted at least 30 days prior to date of examination. Application forms and other information can be obtained from Dr. Elbert W. Crandall, Secretary, Kansas Board of Basic Science Examiners, Pittsburg, Kansas 66764.



***Adverse Drug Reaction Following Treatment With
Monoamine Oxidase Inhibitors and Imipramine
and Similar Drugs: Report of Two Cases—
One Successfully Treated With Chlorpromazine***

JOSEPH C. SAUNDERS, M.D.,* *Compton, California*

DURING RECENT MONTHS several articles have appeared in the literature reporting disastrous drug reactions occurring in patients who received monoamine oxidase inhibitors combined with drugs of the imipramine type or following the discontinuance of one drug type and the immediate use of the other. A review of the literature reveals that a predictable clinical syndrome is found in these drug reactions. Management of the patient has consisted of supportive therapy. An alarming number of such patients have died in extreme hyperthermia. Difficulty in establishing diagnosis and methods of effective treatment subsequently have been the main obstacles in the management of these patients. The specific aims of this paper are: (1) To present a case which was a diagnostic problem with the expectation that correct diagnosis will be arrived at more promptly in the future, regardless of complexity, (2) To present an uncomplicated case which was managed with specific drug therapy with the hope that our method of treatment will prove more efficacious than supportive therapy, (3) To refresh the reader's memory on the

pharmacology of the psychoactive drugs administered to these patients, and (4) To correlate the latest experimental and clinical findings that have evolved as a result of these adverse drug reactions.

In one of the cases presented here, the patient received etryptamine (*Monase*) followed by amitriptyline (*Elavil*®). The other received imipramine (*Tofranil*®) followed by tranylcypromine (*Parnate*®).

Review of the Pharmacology

Monoamine oxidase inhibitors are psychomotor stimulants which exert a preferential effect on mood and behavior and seem to be more suitable in the treatment of a variety of depressive states. The prototype, iproniazid (*Marsilid*), was discovered to improve appetite and reverse fatigue and apathy far out of proportion to its antituberculous effects when the drug was being used in patients for the treatment of tuberculosis. It was then successfully tested in certain depressive states in individuals who did not have tuberculosis. The drug is a hydrazine derivative and as such, along with phenelzine (*Nardil*®), nialamide (*Niamid*®), isocarboxazide (*Marplan*®), and pheniprazine (*Catron*), possesses the ability to produce a toxic hepatitis. Neither tranylcypromine nor ethryptamine is a hydrazine derivative and should not have the potential liver toxicity of these compounds, but

* This is one of a group of theses written by fourth year students at the University of Kansas School of Medicine, selected for publication by the Editorial Board from a group judged to be the best by the faculty at the school. Dr. Saunders is now a resident at the Los Angeles County Harbor General Hospital, Torrance, California.

are contraindicated in patients who are known to have liver disease.

Little is known regarding monoamine oxidase activity in health and disease. Some authorities propose that the biogenic amines such as epinephrine, norepinephrine and serotonin are neurohumors which impede interneuronal transmission in the brain. Thus, the action of monoamine oxidase inhibitors would serve to increase the brain levels of these amines which in some way bring about their changes on the sensorium. However, less well-known or unknown biochemical reactions other than inhibition of monoamine oxidase may be responsible for the clinical effects of these drugs.

Sympathomimetic effects and excitation are thought to be a function of increased amine activity in the brain. Diphosphopyridine nucleotide in the tissues of brain and liver are decreased and pyridoxine utilization increased when these drugs are administered. Serum amine oxidase activity and cholinesterase activity may be diminished in patients with rheumatoid arthritis treated with monoamine oxidase inhibitors. Transaminase activity may be increased with or without alteration of other liver function studies.

Alterations of the autonomic nervous system occurs which is suggestive of ganglionic blocking effects.

It has been demonstrated that these compounds interfere with norepinephrine at the receptor site of the muscular coat of the blood vessels or change the sensitivity of blood vessels to norepinephrine which may account for their vasodilating properties. Direct peripheral action on mesenchymal inflammation and connective tissues is produced by these compounds. Antiphlogistic effect and fibroplasia stimulation in polyvinyl sponges implanted subcutaneously in rats have been observed. Monoamine oxidase inhibitors exert no appreciable effect on serotonin and norepinephrine of peripheral tissues except in platelets, which show increased levels after monoamine oxidase inhibitor administration. The action responsible for these effects is unknown.

According to Scherbel, after oral administration of any of the available amine oxidase inhibitors there is a latent period varying from a few days to a few months before the effect of the drug becomes apparent. The effects persist for a variable period of a few days to a few weeks after discontinuation of therapy. When the drugs are administered intravenously, a sympatholytic effect develops rapidly and lasts for a few hours. All of the hydrazine analogues are thought to inhibit the enzyme irreversibly; this may result in a cumulative effect if the dosage is not carefully adjusted.

One of the first effects of the drug is alteration of psychomotor activity. Usually, a stimulating action occurs but in some patients this is lacking, while in

others sedation or a relaxing effect may be observed. This paradoxical or biphasic effect of monoamine oxidase inhibitors is thought by some investigators to be related to the pre-existing levels of the amines within the central nervous system. They conclude that the free form of serotonin parallels behavior changes; experiments in animals have shown that small elevations of free serotonin in the brain evoke a sedative effect, while larger doses produce excitement. In certain patients with rheumatoid arthritis, chronic ulcerative colitis, or systemic lupus erythematosus, mental confusion related to the illness may disappear after a few days of treatment.

An inhibiting or blocking effect on the autonomic nervous system characteristically occurs. Both sympathetic and parasympathetic activity are inhibited to varying degrees. The areas of nerve impulse inhibition vary in different individuals. The effects include postural hypotension, constipation, dryness of the mouth, lessening of palmar perspiration, the appearance or increase in frequency of vascular headache, increased warmth of the extremities, urinary hesitancy, and decreased ejaculation.

The amine oxidase inhibitors often appear to lessen chronic pain, e.g., neoplasm with metastases and generalized rheumatoid arthritis. The mechanism is unclear. The local stimulating effect of the monoamine oxidase inhibitors on healing of ischemic ulcers complicating Raynaud's phenomenon, pyoderma gangrenosum associated with chronic ulcerative colitis, and ulcers of the skin and subcutaneous tissue which occasionally occur with rheumatoid disease is a property of these compounds that is not generally well known. Monoamine oxidase inhibitors potentiate the clinical response of numerous unrelated compounds, e.g., anesthetic agents, barbiturates, corticosteroids, ganglionic blocking compounds, atropine, morphine, and the 4-aminoquinoline compounds. The oral diuretic agents potentiate the antidepressant and hypotensive effects of the amine oxidase inhibitors.

A comparison of the chemical structure, dosage, and duration of the monoamine oxidase inhibitors may be summarized as follows: Isocarboxazide (*Figure 1*) has greater activity than iproniazid both in vitro and in vivo. The initial dose usually varies between 20 mg. and 30 mg. This is reduced to 10 mg. daily or less to maintain improvement.

Phenelzine is somewhat less active clinically than isocarboxazide. The initial dose is usually 15 mg. two or three times daily, which is reduced after a few weeks to a maintenance dose ranging between 5 and 20 mg. daily.

Nialamide is the least active of the compounds. The initial dose varies between 100 and 300 mg. daily. After improvement occurs, the dose is reduced and maintained between 50 and 150 mg. daily.

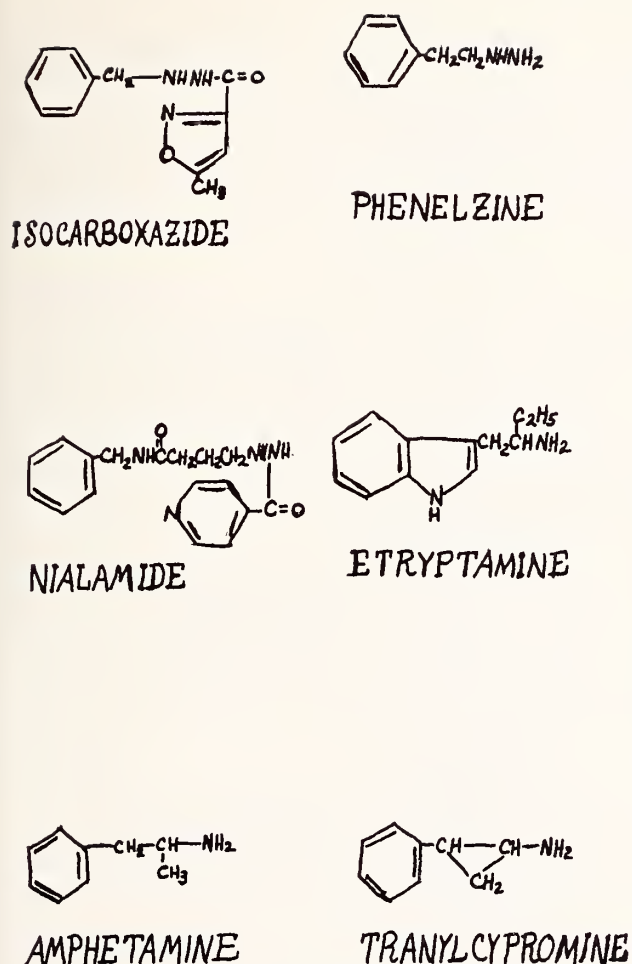


Figure 1

Tranlycypromine is an amphetamine derivative with a rapid effect and relatively short duration of action. In vitro studies indicate that it is a more potent monoamine oxidase inhibitor than iproniazid, but clinically it exerts less antidepressant activity. The initial dose ranges between 20 and 40 mg. daily for one to two weeks, after which time the amount is reduced to 5 to 20 mg. daily.

Etryptamine is a "reversible" nonhydrazine monoamine oxidase inhibitor with antidepressant properties. It acts differently and is less effective than iproniazid. Manufacture of iproniazid, pheniprazine and etryptamine have been discontinued because of toxic reactions.

The amine oxidase inhibitors are not specific for any disease; hence, indications for their use are empirical. However, symptomatic improvement may result from biochemical alterations following administration of these drugs. Because amine oxidase is a multicentric sequential enzyme system in which a number of biochemical reactions occur, it is apparent that individual response to therapy may vary greatly and that several clinical effects may occur almost simultaneously. The response to the drug will also

vary, depending upon the disease for which it is administered. Occasionally, a paradoxical or diphasic response to treatment—which is still not satisfactorily explained—may occur in comparable patients with similar diseases. Psychomotor stimulation associated with increased physical energy or a generalized feeling of well-being may be the first manifestation observed when treatment is started. Less frequently, a generalized feeling of sedation or relaxation may occur. In some patients with depression, there may be no effect on mood or an undesirable feeling of overt anxiousness may appear. In addition, a number of patients with a normal psychomotor state who are treated for diseases not usually associated with alterations in psychomotor activity may receive an inhibitor of monoamine oxidase for long periods without experiencing any apparent effect on psychomotor activity.

In attempting to regulate dosage, the maximal therapeutic effect should be obtained without inducing untoward effects. These effects will differ, depending on the disorder being treated. In patients with depression, postural hypotension is considered an undesirable effect, while in patients with hypertension or angina, increased psychomotor activity is considered undesirable. Thus, it is apparent that the numerous clinical effects are widespread primary pharmacologic actions of equal importance which may or may not be desirable, depending on the individual therapeutic problem.

Toxicity resulting from administration of the monoamine oxidase inhibitors is rare in the absence of overdosage. All may have a cumulative action. Moreover, there may be no sign of a cumulative effect for weeks or even months, and then it may suddenly appear within a few days. Because of the wide range of effects of these drugs that may appear almost simultaneously, it is difficult to define their toxic effects. The desirable effects are usually considered to be psychomotor stimulation, inhibition of autonomic nervous system activity, elevation of the pain threshold, stimulation of healing of certain mesenchymal lesions, and drug potentiation. Undesirable effects occur from alteration of functional activity of the autonomic nervous system and include aggravation of vascular headaches, flushing, perspiration, light-headedness, vertigo, nausea, constipation, anorexia, increased appetite, urinary hesitancy, alteration in sexual activity, muscular fasciculations, hyperreflexia, and unilateral or bilateral edema of the upper or lower extremities.

The most serious complication is toxic necrosis of the liver. This complication has been observed more often after the administration of iproniazid, although the other hydrazine analogues may also cause it. Jaundice running a fulminating course has been re-

ported after iproniazid, with death occurring in 20 to 25 per cent of the cases. The long-term prognosis in patients suffering from acute liver damage has not been determined.

Unexplained anemia, normocytic and normochromic, has been observed in approximately six per cent of patients who receive an amine oxidase inhibitor. Bone marrow and hemolytic studies were non-diagnostic. Leukopenia was observed in three instances among 2,000 patents studied during a seven year period. Leukocyte counts did not fall below 2,000 and all three patients recovered uneventfully when medication was discontinued.

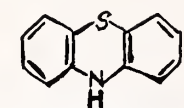
Excessive dreams, hallucinations, agitation, and temporary confusion occurred in six elderly patients. These symptoms were thought to be due to a toxic psychosis and subsided completely within three days when medication was discontinued.

Imipramine and amitriptyline are very similar in structure, amitriptyline having a C atom substituted for N in the basic nucleus, as seen in *Figure 2*. Also noteworthy is the fact that imipramine, amitriptyline and chlorpromazine are quite similar structurally.

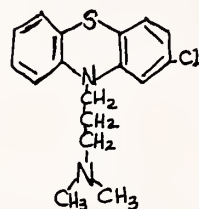
Imipramine has a specific effect in dispelling depression and clinically produces effects similar to the monoamine-oxidase inhibitors although it does not inhibit this enzyme. Experimental evidence has confirmed clinical observations that a severe toxic, synergistic relationship exists when imipramine and monoamine oxidase inhibitors are ingested. The mechanism of such synergistic toxicity although obscure may be related to elevated levels of serotonin and the catechol amines in the brain produced by amine oxidase inhibition, combined with imipramine induced sensitization of receptors to these neurohumoral substances, probably norepinephrine. Imipramine also potentiates the effects of barbiturates and thus would contraindicate their use in managing patients who have sustained such a drug reaction.

Toxicity includes cardiovascular effects characterized by hypotension (unresponsive to pressor amines), syncope, hallucinations, tremor, and dry mouth.

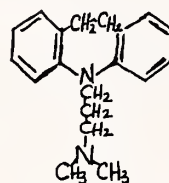
Chlorpromazine, a prototype of the phenothiazine derivatives, shares with its analogues adrenolytic, anticholinergic, and antihistaminic characteristics. They are known to depress the brain stem alerting system which is important in maintaining the brain in the waking state, and which has been assumed to have some importance in the control of the emotions. They all depress the hypothalamus which is an important center in the integration of emotional responses. Additionally, they disrupt the rhinencephalon or limbic system which is a phylogenetically ancient and important integrative center and is thought to be of fundamental importance in man as a center for co-



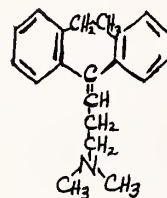
PHENOTHIAZINE
NUCLEUS



CHLORPROMAZINE



IMIPRAMINE



AMITRIPTYLINE

Figure 2

ordinating the baser or animalian components of his psyche. The disruption appears to be the result of overstimulation of the amygdaloid nucleus, an important junction in the Papez circle of the limbic system.

These drugs have a taming effect on wild monkeys without producing sleep. They also antagonize conditioned responses and extend the critical period for imprinting in waterfowl.

The effectiveness of these drugs as aids in psychiatry has long been recognized.

Phenothiazines are especially effective in the control of excessive agitation and hyperactivity in both psychotic and psychoneurotic patients, and have been quite useful in controlling alcoholic delirium as well as drug-withdrawal syndromes. They find use as effective antemetics, and hiccups may respond to treatment by members of this group when all other types of therapy have failed. They have also been employed with possibly less effect in the treatment of pruritis.

Phenothiazines can cause restlessness, nightmares, social withdrawal, depression, unreality feelings, and hallucinations. Epileptiform seizures and extrapyramidal syndromes mimicking parkinsonism may be

produced. Nasal congestion, constipation, impotence, dermal photosensitivity, dermatitis, purpura, and agranulocytosis are among the toxic effects of this group. An allergic jaundice may also be produced. These agents are also effective synergizers of analgesics, sedatives and anesthetics and can be effectively used to reduce the dosage of other drugs.

Case Report 1

A 39-year-old, white male was admitted to hospital on March 25, 1962, because of violent, aggressive behavior at home. Two weeks prior to admission patient was started on etryptamine 15 mg. three times a day by his local physician for "progressive depression" manifest by insomnia, anorexia, and complaints of his "nerves giving out." This regimen lasted approximately ten days after which the patient was changed to amitriptyline 25 mg. TID which was continued for five days. One day the patient experienced visual hallucinations and was given promazine (*Sparine*®) 200 mg., phenobarbital sodium 120 mg., and paraldehyde 30 ml. by his physician and referred to this hospital.

The patient had been a heavy consumer of alcohol for an undetermined number of years. No history of delirium tremens was elicited. Family stated that four years prior to admission the patient was jaundiced for one week. There was a questionable history of transient jaundice two weeks prior to admission. As a younger man, he had experienced several episodes of epistaxis and one week before entering this hospital he had an episode of rapid, profuse epistaxis.

On admission the patient was very tremulous and refractory to hospitalization. Otherwise physical and laboratory examinations were unremarkable. One day after admission on March 26, 1962, he became increasingly hostile, hyperexcitable, aggressive, combative and was placed in restraints. He became stuporous and blood pressure fell to 80/60, temperature rose to 108 F; pupils were dilated and did not react to light. The patient became unconscious; respirations were rapid and stertorous. Reflexes were difficult to obtain, urine output was exceedingly low. Hypothermia blanket returned temperature to normal and it continued to fall until it stabilized at a level of 94 F. Blood pressure returned to approximately 120/100 in this previously hypertensive male. He remained unconscious and rectal temperature rose to 101 F. A working diagnosis of hemorrhage into the substance of the brain, probably at the level of the hypothalamus was made. Prothrombin time was considered to be increased (control 13 seconds, patient 23 seconds initially; on repeat determination, control 13, patient 34 seconds). Clotting time was 20 minutes by the Lee-White technique. During the first 12

hours of treatment the patient received one gram of fibrinogen and transfusions of fresh blood without improvement in clinical status. After approximately 60 hours he became somewhat dusky in appearance and the nailbeds were cyanotic. Oliguria progressed to anuria, his breathing became more shallow and blood pressure more difficult to obtain. Levophed and amine were administered. Patient expired quietly on March 27, 1962, two days after admission. Autopsy confirmed damage to the liver and kidneys but no gross or microscopic evidence of brain tissue hemorrhage or damage was to be found.

Case Report 2

This 25-year-old white male, a known chronic schizo-affective schizophrenic patient was admitted to the hospital on September 13, 1962, and placed on the locked ward because of his loud, demanding behavior and vulgar speech. He was placed on thioridazine 50 mg. three times a day and was noted to be less hyperactive. Subjectively the patient felt "more at ease" but his behavior remained abusive and he continued to overwhelm both patients and personnel alike. Subsequently he entered a depressed phase manifest by insomnia, ideas of reference and withdrawal. Trifluoperazine (*Stelazine*®) 2 mg., twice a day, was substituted for his previous medication. After a two week trial on this regimen with the dose gradually increased to 10 mg. two times a day, the patient remained quite withdrawn and aloof. Imipramine 25 mg., four times a day, was substituted and continued for 19 days with no improvement noted. On the 19th day imipramine was discontinued and tranlycypromine 10 mg. three times a day was begun. Six days after therapy with tranlycypromine, the patient became hyperexcitable, restless and hyperactive which terminated in his destruction of the ward television set by smashing it against the floor. Once placed in restraints, patient became progressively more drowsy and lethargic, showed excessive salivation, diaphoresis and finally lapsed into unconsciousness. Respirations were rapid and stertorous. Physical examination revealed a blood pressure of 90/58, temperature 103.6 F, and a patient who was unconscious and did not react to painful stimuli. Pupils were widely dilated and did not react to light. Gross muscle fasciculations were observed and interfered with the ECG tracing. Hypertonicity was generalized. Hyperreflexia was noted with bilateral Babinskis and bilateral ankle clonus. Carotid arteriograms were done and tracheostomy performed afterwards. Hypothermia blanket failed to return the temperature to normal and an essentially unchanged clinical picture persisted for the ensuing 12 hours. Consultation was obtained with the Department of Pharmacology and a recommendation

was made that the patient be treated with chlorpromazine (*Thorazine*®) 25 mg. intramuscularly. Upon receiving the drug, the patient instantly and fleetingly appeared to be in the tonic phase of a convulsion manifest by stiffening of the entire body and a groan. He then relaxed, pupils instantly became miotic, almost pin-point, and also as promptly, respirations returned to normal. Another 25 mg. of chlorpromazine were given one hour later, then on a schedule of 25 mg. every six hours. During the next six hours blood pressure and temperature returned to normal, the sensorium cleared and muscle fasciculations and excess salivation disappeared. He remained aloof and withdrawn as was his previous behavior, but spontaneity and response to conversation have improved steadily.

Discussion

In the first case reported, the clinical picture, now recognized more easily as that of an adverse drug reaction than previously, is seen. Suggestive are the extreme hyperpyrexia, hypotension, hyperexcitability, mydriasis, and unconsciousness. In this patient, however, the picture was clouded because of a history of liver damage and the administration of hepatotoxic medications which were contraindicated under the circumstances. Although the values of prothrombin time and clotting time were moderately increased and a history of epistaxis elicited, a positive history of the use of the particular drug combination in rapid succession should have created a high index of suspicion in suggesting the correct diagnosis, although it is doubtful that this patient could have been saved. In the past, these drug reactions have frequently been confused with cerebral vascular accidents. In reporting this case it is hoped that publicity will bring about a greater sense of awareness of the clinical picture seen in this condition and thereby facilitate increasingly more astute diagnosis in the more complex cases. It also points up the necessity for continued vigilance against administering certain drug combinations and administration of certain drugs when specific contraindications for their use exist.

In the second case, recognition of the drug reaction was less perplexing. Treatment was based on the theoretical actions of chlorpromazine, i.e., of depressing transmission in the reticular activating system, an area of the central nervous system where norepinephrine is a neurotransmitter. Imipramine, by sensitizing these brain areas to norepinephrine and the monoamine oxidase inhibitors increasing the concentration of norepinephrine at these sites, would by necessity act in a synergistic manner. The toxicity is probably related to an uncontrolled overactivity of the neurohumoral transmitter, norepinephrine. The same is

true as regarding serotonin. Monoamine oxidase inhibitors increase the concentration of serotonin and imipramine sensitizes tissue to serotonin. Again, chlorpromazine is a very effective serotonin blocking agent. Which of the two mechanisms is more important at this time is a moot point. Perhaps both are important.

Summary

The untoward drug reactions resulting from the combined or consecutive use of a monoamine oxidase inhibitor and imipramine and similar drugs have been reported in the literature and cite many fatalities. Although the exact mechanism of action is not clear, recent experiments substantiate a toxic synergistic relationship existing between the two drug classes. These experiments suggest that chronic administration of imipramine and congeners promotes a sensitization of receptors to norepinephrine and serotonin in the brain which are normally destroyed along a pathway blocked by tranlycypromine. As these metabolites accumulate, toxicity occurs. Two cases were presented, one a diagnostic problem because of liver and kidney disease, the other readily recognized and treated with specific therapy based on both experimental and theoretical considerations. In establishing the diagnosis, a positive history of such a drug combination, mydriasis, profuse sweating, extreme hyperpyrexia, hyperexcitability, hypertonicity, excess salivation, unconsciousness, convulsions (in most cases), and hyperreflexia are usually seen. Since these drugs potentiate barbiturates, other methods of controlling convulsions and hyperactivity should be sought. The use of muscle relaxants appear indicated in managing these patients since experimentally extreme hyperthermia did not develop in animals which were not allowed to develop muscle fasciculations and the inevitable temperature rise which accompanied them, by using curare.

This writing suggests a regimen of specific therapy with chlorpromazine in individuals sustaining an adverse drug reaction with a monoamine oxidase inhibitor and a drug of the imipramine type.

REGISTERED TRADE NAMES

<i>Elavil</i>	Merck, Sharp & Dohme
<i>Marplan</i>	Roche Laboratories
<i>Nardil</i>	Warner-Chilcott
<i>Niamid</i>	Pfizer Laboratories
<i>Parnate</i>	Smith Kline & French
<i>Sparine</i>	Wyeth Laboratories
<i>Stelazine</i>	Smith Kline & French
<i>Thorazine</i>	Smith Kline & French
<i>Trofānil</i>	Geigy Pharmaceuticals

EDITOR'S NOTE: References may be obtained by writing the JOURNAL, 315 West 4th Street, Topeka, Kansas 66603.

The President's Message

DEAR DOCTOR:

On the horizon are looming broad new changes in Blue Shield contracts and coverage. Some of these changes are being encouraged by the threat of government medicine, it is true; but, most of these changes are just good sense and would have evolved without Medicare.

There are certain things that every physician in Kansas should know about these programs, however, before the Kansas Medical Society makes a decision on them at a special session of the House of Delegates, probably in January.

For this reason, the council district annual meeting programs this year will be on this subject. Watch for the dates.



Sincerely,

George Burkett, Jr., M.D.

President



Editorial COMMENT

New AAMA President



MARJORIE SLAYMAKER
Newton, Kansas

On October 16, 1965 in New York City, Miss Marjorie Slaymaker, Business Manager of the Axtell Clinic, Newton, will be installed as president of the American Association of Medical Assistants.

Miss Slaymaker has in the past been president of the Kansas Medical Assistants Society and has for many years contributed a variety of services to the state and national professional associations.

The Kansas Medical Society wishes to express its congratulations to the new president of the AAMA and in so doing reflects the high honor Miss Slaymaker bestows upon this Society. We are all very proud of her, we wish her every success in her new

office and offer to her the support and the cooperation of this Society in any manner in which the physicians of this state might be of assistance to her administration.

District Meetings

Between October and the close of this year there will be scheduled district meetings in each of the eighteen council districts, sponsored by the Kansas Medical Society and the Auxiliary. Every doctor in the Society and his wife is invited to attend the meeting in the district to which he belongs. The invitation will be received through the councilor of the district.

In this particular year these district meetings are of exceptional importance. George Burket, Jr., M.D., President, expects to call a special session of the House of Delegates of the Society to be held possibly in January. The district meetings are for the purpose of explaining to the members of this Society the questions that shall be presented before the House of Delegates.

The impact of Public Law 89-97 upon the practice of medicine will be explored. Several major changes in the operation of Kansas Blue Shield are being considered, such as the abolition of fee schedules in favor of payment of customary or usual fees. Legislation now pending in the congress to create regional medical complexes for cancer, heart disease and stroke will also be discussed.

These issues are of significance to every practicing physician. It is hoped every member will attend and aid his Society through the expression of his opinion concerning policies the Society will adopt. It is essential that the Society have the opinion of its mem-

bers on these questions. It is believed the meetings will be of interest and of benefit to the members. For these reasons this special invitation is here recorded. Announcements of meeting places and dates will be sent through the mail.

AMA-ERF

Dr. Cyril V. Black of Pratt, who has been chairman of the Endowment Committee for several years, recently received a letter from a relative of one of his patients, which, quoted below in part, is self-explanatory:

Dear Dr. Black:

Yesterday I received a card from the AMA-ERF, stating that you had sent a gift in memory of my beloved sister, ———. I appreciate this more than I can say—in fact, I am quite touched for I never knew that doctors did this. It would seem that after taking such beautiful care of her that you had done your bit. . . .

I appreciate the memorial gift much more than flowers for it helps the living.

I shall send this card in our "Round Robin" letter so all the family will know about it. I know that they join me in thanking you.

Contributions to AMA-ERF as memorials serve a double purpose, as this letter suggests, and would be a fitting way for a physician to honor a friend or patient.

PROJECT VIET-NAM

In response to an urgent appeal to American Medicine by President Lyndon B. Johnson, the American Medical Association is assisting the newly formed voluntary organization known as PROJECT VIET-NAM. This Project, administered by The People-to-People Health Foundation, Inc., is a cooperative medical effort of America's inter-voluntary agencies for the people of South Viet-Nam. The Agency for International Development (AID) is also participating in this program that appears vital to our success in the present crisis in Asia.

PROJECT VIET-NAM was developed to help alleviate the problem of the critical shortage of physicians in South Viet-Nam—a problem that is crippling and demoralizing the civilian population of the country. The matter is of concern to all physicians—those believing that human life everywhere is sacred, and those sharing a stake in the security of the United States. The American Medical Association, cooperating with the President's request, is appealing to each

county and state society for participation in a program that will assist in the procurement of volunteer physicians for this important venture.

PROJECT VIET-NAM will send teams of twenty physicians into Viet-Nam for periods of just *sixty* days. The teams will be divided into four groups, each being assigned to a hospital now being operated under the AID program. Facilities and supporting personnel are available at each installation for carrying out services in accordance with acceptable professional standards. While ultimately many disciplines of medicine may be required, the immediate need is for physicians in *general practice*, *general surgery* and *orthopedic surgery*. Although service with PROJECT VIET-NAM is on a volunteer basis, transportation from home and return via commercial airline, a nominal per diem, housing, meals and other needs will be supplied. The federal government has also given assurance that all volunteers will be granted the same privileges, courtesies and priority provided government personnel in the area.

Interested physicians may obtain further information and application forms by communicating with:

PROJECT VIET-NAM

2233 Wisconsin Avenue, N.W.

Washington, D. C. 20007

Phone: 338-5730 or 338-6110

NEW MEMBERS

The JOURNAL takes this opportunity to welcome these new members into the Kansas Medical Society.

Paul D. Johnson, M.D.
520 Sixth Avenue
Leavenworth, Kansas
66048

James G. Ruggles, M.D.
Hertzler Clinic
Halstead, Kansas 67056

Robert G. Rizza, M.D.
Hertzler Clinic
Halstead, Kansas 67056

Filiberto P. Valderrama, M.D.
320 Oak Street
Newton, Kansas 67114

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Patronizing
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You Help Support
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KaMPAC*

****Kansas Medical Political Action Committee***

DEAR DOCTOR:

A short description of KaMPAC is in order.

The Kansas Medical Political Action Committee is a non-profit, unincorporated, bipartisan organization composed of the medical profession and their friends. This is coordinated with the national organization, AMPAC—American Medical Political Action Committee. Contributions are voluntary, not deductible, and are used to help elect friends of medicine. It is operated by a Board of Directors appointed yearly by the Kansas Medical Society. Candidates to be supported are chosen by the Board of Directors after interviewing each. The candidates are helped financially as well as by “political work” such as phone calls, getting out the vote, poll-watchers, mailings, etc. Its counterpart is the labor-oriented COPE. Prior to the Johnson landslide, our record for electing friendly congressmen was considerably better than that of COPE.

It is your organization, for a special purpose, and each doctor and friend of medicine should be a member.

Very truly yours,

John W. Warren, Jr., M.D.

Chairman, KaMPAC



Personalities—IN KANSAS MEDICINE

Governor William Avery has announced the recent appointment of **E. Raymond Gelvin**, Concordia, to the Kansas Joint Council on Recreation. The purpose of the council will be to draft a plan for recreation facilities for all Kansas lakes and streams.

A one day meeting on strokes was held at the Central Kansas Medical Center in Great Bend in September, with **Charles Replogle** of Great Bend presiding over the session. Among the speakers were **Norman Anderson** and **Robert C. Lawson** of Topeka; and **Ernest Crow** and **Arthur Bacon** of Wichita.

Carroll Behrhorst, Guatemala, returned to Winfield in September for a brief visit and to enroll his daughter in St. John's Academy there. Dr. Behrhorst, who formerly practiced in Winfield, went to Guatemala five years ago to work with Lutheran foreign missions. Because of his belief that the people of impoverished countries can improve themselves without taking gifts from others, he left the medical mission field to open his own hospital and clinic near Guatemala City. He is the only physician in a district of 122,000 people.

Melvin Masterson, Paola, has returned to the University of Kansas Medical Center to complete his residency in radiology. Dr. Masterson has been associated with the Miami County Clinic in Paola.

The appointment of **John A. Segerson**, Topeka, as director of the Neurology and Neurosurgery Service of the Menninger Foundation was announced the first of September by **William C. Menninger**, president of the Foundation.

Norman G. Marvin, Syracuse, has been elected to active membership in the American Academy of General Practice.

Dr. and Mrs. Cecil C. Hunnicutt, Sabetha, were among the second group who went to Honduras to assist with project "Amigos de Honduras" (Friends of Honduras). The purpose of the project was to immunize the children of Honduras. The Hunnicutts returned to Sabetha in August.

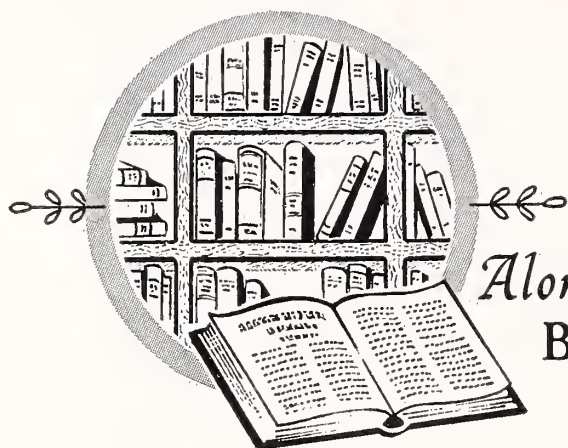
Ruth Montgomery-Short, Wichita, has been named to the Kansas Commission on the Status of Women. The announcement was made by Governor Avery in August.

George Zubowicz, superintendent of the Osawatomie State Hospital, announced in August the appointment of **Liam O'Brien** as clinical director of the hospital.

William H. Zimmerman, Topeka, was re-elected president of the Shawnee County unit of the American Cancer Society at their annual meeting held in August. **Lee S. Fent**, Newton, president of the Kansas Division of the American Cancer Society, was guest speaker at the meeting.

Bill L. Gardner resigned as superintendent of the Winfield State Hospital and Training Center in August, and will enter private practice in Anthony.

In September, Governor Avery announced the appointment of **John L. Lattimore**, Topeka, and
(Continued on page 485)



Along The BOOKSHELF

Clendening Medical Library

Recent Acquisitions

- Anderson, Robin and Byars, L. T. Surgery of the parotid gland. Mosby, 1965.
- Baum, G. L., ed. Textbook of pulmonary diseases. Little-Brown, 1965.
- Beetham, W. P. and others. Physical examination of the joints. Saunders, 1965.
- Brackbill, Yvonne. Research in infant behavior; a cross-indexed bibliography. Williams & Wilkins, 1964.
- Columbia University. Psychoanalytic Clinic for Training and Research. New perspectives in psychoanalysis. . . . Grune & Stratton, 1965.
- Comroe, J. H. Physiology of respiration. Year Book, 1965.
- Edinburgh University. Faculty of Medicine. Clinical examination. Williams & Wilkins, 1964.
- Etter, L. E., ed. The science of ionizing radiation; modes of application. Thomas, 1965.
- General Electric Company. X-ray Dept. Medical radiographic technic. 3rd ed. Thomas, 1965.
- Jarrett, Arthur and Spearman, R. I. C. Histochemistry of the skin—psoriasis. Van Nostrand, 1964.
- Kastenbaum, Robert, ed. New thoughts on old age. Springer, 1964.
- Kelikian, H. Hallux valgus, allied deformities of the forefoot and metatarsalgia. Saunders, 1965.
- Klemer, R. H., ed. Counseling in marital and sexual problems; a physician's handbook. Williams & Wilkins, 1965.
- Lewis, K. H. and Angelotti, Robert, eds. Examination of foods for enteropathogenic and indicator bacteria. . . . U. S. Govt. Print. Off., 1964.
- Maddison, David and Duncan, G. M., eds. Aspects of depressive illness. Livingstone, 1965.
- Muir, Sir Robert. Textbook of pathology. 8th ed. Williams & Wilkins.
- National Conference on Institutionally Acquired Infections, Minneapolis, 1963. Proceedings. U. S. Govt. Print. Off., 1964.
- Pantelouris, E. M. The common liver fluke, *Fasciola hepatica* L. Pergamon, 1965.
- Paul, W. M. and others, eds. Muscle; proceedings of the symposium held at the Faculty of Medicine, University of Alberta, June 1-4, 1964. Pergamon, 1965.
- Peacocke, A. R. and Drysdale, R. B. The molecular basis of heredity. Butterworths, 1965.
- Piliero, S. J., Jacobs, M. S., and Wischnitzer, Saul. Atlas of histology. Lippincott, 1965.
- Progress in medicinal chemistry. Butterworths, 1965. v. 4.
- Racker, Efraim. Mechanism in bioenergetics. Academic, 1965.
- Robertis, E. D. P. de, Nowinski, W. W., and Saez, F. A. Cell biology. 4th ed. of General cytology. Saunders, 1965.
- St. Joseph's Hospital, Phoenix, Ariz. Barrow Neurological Institute. Horizons in neurological education and research. Thomas, 1965.
- Schmeck, H. M. The semi-artificial man; a dawning revolution in medicine. Walker, 1965.
- Shelburne, S. A. Hypertensive retinal disease. Grune & Stratton, 1965.
- Shoppee, C. W. Chemistry of the steroids. 2d ed. Butterworths, 1964.
- Silver, H. K. and others. Handbook of pediatrics. 6th ed. Lange, 1965.
- Smith, A. L. Principles of microbiology. 5th ed. Mosby, 1965.
- Snapper, Isidore. Chinese lessons to Western medicine. . . . 2d ed. Grune & Stratton, 1965.
- Trainer, J. B. Physiologic foundations for marriage counseling. Mosby, 1965.
- Valentine, Max. An introduction to psychiatry. 3d ed. Livingstone, 1965.
- Walton, J. N., ed. Disorders of voluntary muscle. Little, Brown, 1964.
- Wolpe, Joseph, Salter, Andrew, and Reyna, L. J.,

(Continued on page 485)



Book REVIEWS

CASE STUDIES IN OBSTETRICS AND GYNECOLOGY, by F. Jackson Stoddard, M.D. W. B. Saunders Company, Philadelphia, 1964. 312 pages illustrated. \$8.50.

The formal lecture is the basis of medical learning and the formal textbook is its bible. Increasingly popular, however, is the informal panel discussion with more active participation from the audience, permitting more specific and practical explanation of the thought and methods of the authorities.

This book relates to the formal textbook in much the same manner as the discussion group relates to the class room. Using case histories of various obstetrical and gynecological conditions, the author presents typical examples and reports their diagnosis and management in the manner in which they would be seen and handled in the office or hospital. By a mechanism of questions and answers, he explores the process of reasoning supporting the effort. Thus, differential diagnosis is included and varying therapeutic regimens examined.

The result is one of the most readable and practical books we have seen in a long time—the only one we recall with just this format. It is adequately illustrated and each section is supported by several references if one wishes to pursue the subject. Some 60 cases are used to illustrate 22 different clinical problems ranging from gonadal dysgenesis to the menopause. The author has wisely chosen to include some instances of error in judgment, or less than satisfactory results. Such indications that the teacher can be human helps to neutralize some of the oracular attitude that alienates the student.—D.E.G.

BUSINESS MANAGEMENT OF A MEDICAL PRACTICE, by Bernard D. Hirsh, LL.B. C. V. Mosby Company, St. Louis, 1964. 190 pages illustrated. \$7.75.

Business Management of a Medical Practice by Bernard D. Hirsh is an excellent source of informa-

tion for a doctor who is considering the advantages and disadvantages of being associated with another doctor for the practice of medicine, and for any doctor as he plans his own practice and when he gives attention to the management of his savings. The problems and advantages of being associated with other doctors are pointed up very effectively and adequately. The book is replete with sample agreements, and it may appear that some of them are superfluous but the author has used this means of pointing up the problems of doctors being associated with one another under almost any situation.

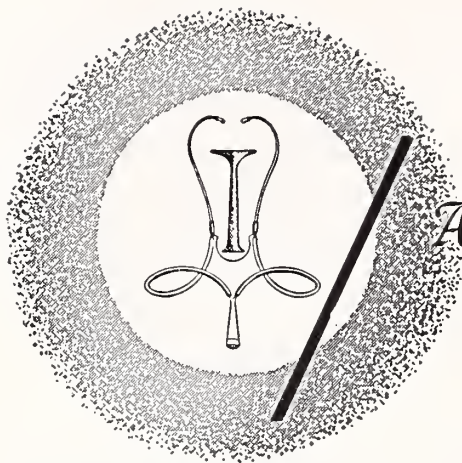
Many and appropriate guideposts are set out very clearly, and if they are followed by the doctor he will avoid many unfortunate and unprofitable experiences.

Suggestions, which are almost admonitions, regarding the necessity of a doctor seeking professional counsel in the many areas of his practice are appropriate because of the current complexities of the medical profession.

In view of the very significant trend toward group practice, the author could have given greater attention to the economic advantages of this mode of practicing medicine. The business management of the following could be covered with profit for the doctor: (1) purchasing; (2) collections; (3) insurance; (4) retirement plans; and (5) building and equipment.—G.R.U.

X-RAY TECHNOLOGY, by Charles A. Jacobi and Don Q. Paris (3rd Edition). C. V. Mosby Company, St. Louis, 1964. 452 pages illustrated. \$11.50.

This is one of the few good radiographic technique books available to x-ray schools. It does not compare with Meshan's book *Normal Radiographic Anatomy*, nor to Merrill's *Atlas of Roentgenographic Positions*; however, it is definitely worthy of a place in the libraries of x-ray schools.—D.W.



Announcements

Professional meetings, conferences, and postgraduate courses of national importance are listed for the Doctor's Calendar. Notice of the session is posted in advance to allow the physician time to make preparations.

OCTOBER

- Oct. 18-22 Annual clinical congress, American College of Surgeons, Atlantic City, New Jersey. Write: American College of Surgeons, 55 E. Erie St., Chicago 60611.
- Oct. 23-28 American Academy of Pediatrics, annual meeting, Palmer House, Chicago. Write: American Academy of Pediatrics, 1801 Hinman Avenue, Evanston, Illinois 60204.
- Oct. 23-27 Annual meeting, American Society of Anesthesiologists, Denver Hilton Hotel, Denver. For information write American Society of Anesthesiologists, Inc., 515 Busse Highway, Park Ridge, Illinois. Room reservations should be made directly with the Denver Hilton, P. O. Box 60, Denver.
- Oct. 28-29 Annual meeting, Kansas Academy of General Practice, Highland Manor, Great Bend. Symposium on "Cancer Detection in the Office Practice." Write the Kansas Academy of General Practice, 506 State Bank Building, Winfield, for further information.
- Oct. 29-30 M.D. Day, University of Missouri Medical Center, Columbia. Scientific program presented by the faculties of the University of Missouri and University of Nebraska. Write the University of Missouri Medical Center for further information.

NOVEMBER

- Nov. 1-4 Section on Otolaryngology, Southern Medical Association, Houston, Texas. Write: Neil Callahan, M.D., 500 Rodman Avenue, Portsmouth, Virginia 23707.

- Nov. 1-4 Section of Ophthalmology, Southern Medical Association, Houston, Texas. Write: George S. Ellis, M.D., 812 Maison Blanche Building, New Orleans 70116.
- Nov. 11-13 Inaugural Scientific program of the new Ancker Hospital (Saint Paul-Ramsey Hospital), Saint Paul, Minnesota. For further information write: James F. Hammarsten, M.D., Chief of Medicine, Ancker Hospital, Saint Paul.
- Nov. 16 *Something About Blood Pressure*, Holiday Inn, Kearney, Nebraska. Write R. C. Rosenlof, M.D., Platte Valley Medical Group, Kearney, Nebraska 68847, for information and program.
- Nov. 15-19 Annual Meeting of the Animal Care Panel, Sheraton Hotel, Philadelphia. Write: Mr. Joseph J. Garvey, Exec. Sec., 4 E. Clinton Street, Joliet, Illinois 60434.
- Nov. 22 Symposium on Hodgkin's Disease, co-sponsored by American Cancer Society and National Cancer Institute, New York Hilton Hotel, New York City. Write: Jack W. Wilder, M.D., American Cancer Society, Inc., 219 E. 42 Street, New York City 10017.
- Nov. 28 National Conference on the Medical Aspects of Sports sponsored by AMA, Philadelphia.

DECEMBER

- Dec. 8-10 Second National Symposium on Coccidioidomycosis, Del E. Webb TowneHouse, Phoenix, Arizona. For further information contact: Arizona Tuberculosis and Health Assn., Inc., 733 West McDowell Road, Phoenix 85007.

POSTGRADUATE COURSES

University of Kansas:

- Oct. 26-27 *Medicine and Religion*
 Nov. 3-5 *Aviation Medicine: Advanced Seminar*
 Nov. 8-11 *Internal Medicine*
 Nov. 17-18 *A. Morris Ginsberg Memorial Seminar*
 (Menorah Medical Center, K. C., Mo.)

For further information write the Department of Postgraduate Medical Education, University of Kansas Medical Center, 39th & Rainbow Blvd., Kansas City, Kansas 66103.

University of Colorado:

- Nov. 1-5 *Psychiatry for the Internist* (ACP Course)
 Nov. 10-12 *Fractures and Joint Injuries*

For further information write the Office of Postgraduate Medical Education, University of Colorado School of Medicine, 4260 East Ninth Avenue, Denver 80220.

- Oct. 25-28 Annual fall postgraduate assembly, Omaha Mid-West Clinical Society, Civic Auditorium, Omaha, Nebraska. (Acceptable for 32 accredited hours by AAGP.) Write Omaha Mid-West Clinical Society, 1040 Medical Arts Building, Omaha 68102.
 Nov. 11-13 Cerebral Palsy: Modern Concepts—Allied Disorders, Rehabilitation, Mound Park Hospital Foundation, St. Petersburg, Florida. (Accredited for 18 hours by AAGP.) Write CEREBRAL PALSY, Mound Park Hospital Foundation, Inc., St. Petersburg 33701.

American College of Chest Physicians:

- Oct. 18-22 Clinical Application of Cardiopulmonary Physiology, Chicago
 Nov. 15-19 Diagnosis and Treatment of Diseases of the Heart and Lungs, New York City

For further information write the American College of Chest Physicians, 112 E. Chestnut St., Chicago 60611.

Bookshelf

(Continued from page 482)

- eds. The conditioning therapies; the challenge in psychotherapy. Holt, Rinehart & Winston, 1964.
 Yunis, J. J., ed. Human chromosome methodology. Academic, 1965.
 Zdansky, Erich. Roentgen diagnosis of the heart and

great vessels. 2d American ed., new enl. revision. Grune & Stratton, 1965.

Personalities

(Continued from page 481)

H. St. Clair O'Donnell, Ellsworth, to the State Board of Healing Arts.

Leslie F. Eaton, Salina, was recently appointed to serve a two-year term on the board of directors of the Kansas State Chamber of Commerce.

Thomas F. Taylor, Phillipsburg, attended the General Practice Review held at the University of Colorado Medical Center in Denver the last week of July.

David H. Davis, Larned, has been named acting clinical director of Larned State Hospital.

The Distinguished Medical Teaching Program and its impact on the University of Kansas Medical Center was discussed by **Jack Walker**, assistant dean, at a combined meeting of the Shawnee County Medical Society and Auxiliary in September.

DRINKING AND HIGH FLYING

If you drink, don't fly—especially don't fly above 25,000 feet.

Even one shot of 100-proof whiskey, equivalent to a single martini, caused an over-all drop of 38 per cent in time of useful consciousness in a group of Air Force volunteers.

This small amount of alcohol in the blood lowers most persons' ability to remain conscious in the rarified air at 25,000 feet, two Air Force investigators said.

Dr. Joe L. Nettles and Robert N. Olson of McCoy Air Force Base, Fla., described an experiment designed to learn how alcohol influences a flier suddenly subjected to rapid decompression, as might happen if an airplane cabin suddenly decompressed while the craft was flying at 25,000 feet. In the event of rapid decompression, the flier may have just a few seconds of useful consciousness in which to switch to emergency oxygen equipment. Anything that shortens the time of useful consciousness might mean the difference between life and death.



JOHN ALDIS, M.D.

John Aldis, Fort Scott, died September 5, 1965, in Mercy Hospital from injuries received in a motorcycle accident on September 4. He was 54 years old.

Dr. Aldis was born April 15, 1911, at Arlington, Kansas. He grew up and completed high school in India where his father was a missionary. He came to the College of Emporia and after graduating from that school attended medical school at Columbia University School of Medicine, New York City, receiving his medical degree in 1938. After completing his internship and residency training, he joined the Newman-Young Clinic in Fort Scott in 1950.

Survivors besides his wife and three children, include two brothers, Dr. Henry Aldis and Dr. William Aldis, both of Fort Scott.

FERD BURNETT, M.D.

Ferd Burnett, 85, of Cunningham, died in the Nashville Hospital on August 29, 1965.

He was born in Dixon, Missouri, on September 19, 1879. He graduated from the Keokuk (Iowa) Medical College of Physicians and Surgeons in 1903 as a registered pharmacist and spent three years with his brother, Dr. J. R. Burnett, at Hazelton. He received his medical degree in 1906 and practiced medicine in Fowler and Garfield before going to Cunningham in 1926. He continued his medical practice in that community for nearly 60 years.

Dr. Burnett is survived by his wife, a brother and a sister.

ARTHUR D. DANIELSON, M.D.

Arthur D. Danielson, 59, died July 3, 1965, in the Herington Hospital.

Dr. Danielson was born at Clyde, Kansas, on September 12, 1905. After graduation from the Clyde High School he entered the University of Oklahoma and graduated from the School of Medicine in 1932. After interning in Seattle, Washington, he returned to Concordia to establish his practice. He moved to Herington in 1936 and continued his practice there until his retirement. He served in the United States Navy for four years during World War II. For his efforts in the establishment of the Herington Municipal Hospital he was presented the Senior Citizen Award from the Chamber of Commerce in 1959.

He is survived by his wife and daughter.

MARTIN HAGAN, M.D.

Martin Hagan, 88, Wichita, a retired physician and founder of the radiology department at St. Francis Hospital, Wichita, died on August 23, 1965.

He was born near Independence, Iowa, on November 9, 1875. After graduating from Northwestern University School of Medicine in Chicago in 1904, he came to Wichita and practiced there until his retirement in 1961. Dr. Hagan experimented with x-rays early in his medical career and was in charge of the radiology department of St. Francis Hospital until 1946. He was a veteran of the Spanish-American War.

He is survived by five daughters and five sons, including Dr. Francis J. Hagan and Dr. C. Thomas Hagan, both of Wichita.

CLINE V. McWILLIAMS, M.D.

Cline V. McWilliams, 70, a physician in Kansas City, Kansas, for 22 years died on September 3, 1965.

Born in Turney, Missouri, on October 16, 1894, he had lived in Kansas City for 43 years. He attended William Jewell College, Liberty, Missouri, and graduated from the University of Kansas School of Medicine in 1921, serving his internship at Kansas City General Hospital. He was a member of several civic and medical organizations.

Surviving are his wife and a daughter.

CLAUDE C. PRICE, M.D.

Claude C. Price, Willis, Texas, died August 14, 1964, at the age of 83.

Dr. Price was born at Versailles, Missouri, on April 19, 1881 where he lived until he graduated from high school. In 1904 he entered the Kansas City Medical College, graduating in 1908. He was a member of the surgical staff of Kansas City General Hospital and other Kansas City hospitals. After serving as a captain in World War I, he located in Lyons, moving to Oswego in 1939. After his retirement in 1960 he moved to a ranch in Willis, Texas.

He is survived by his wife and son.

JESSE R. PRICHARD, M.D.

Jesse R. Prichard, retired Fort Scott physician, died September 8, 1965, in Mercy Hospital. He was 84 years old.

Dr. Prichard was born in Newark, Ohio, on November 10, 1881. He came to Fort Scott in 1905 following graduation from the University of Louisville Medical School. In 1906, he moved to Washington where he practiced until World War I. He entered service, attended a school of orthopedic surgery in New York, and served in the medical corps. He returned to Fort Scott after the war and practiced there until his retirement in 1964.

His wife and daughter survive.

FRANCIS C. SHEPARD, M.D.

Francis C. Shepard, 57, Clay Center, and his son, Clayton Shepard, a dentist in Overland Park, were killed on September 1, 1965, in the crash of their airplane near Hutchinson.

Dr. Shepard was born March 12, 1908, in Alliance, Nebraska. He attended schools in Alliance and was graduated from Loyola Medical College in Chicago in 1934. He was a practicing physician and surgeon in Clay Center since 1935. He was a member of the Flying Physicians Association and a past president of the Clay Center School Board, of which he was a member for 16 years.

He is survived by his wife and two sons.

The Kansas Medical Society—1965-1966

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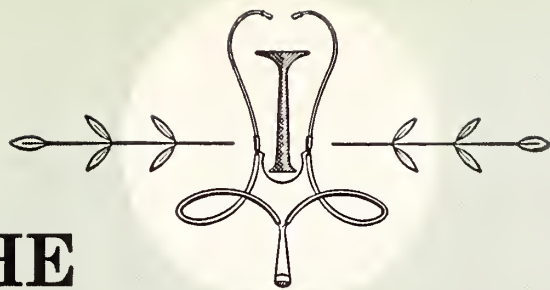
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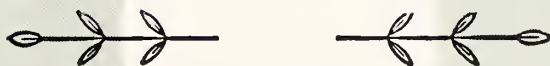
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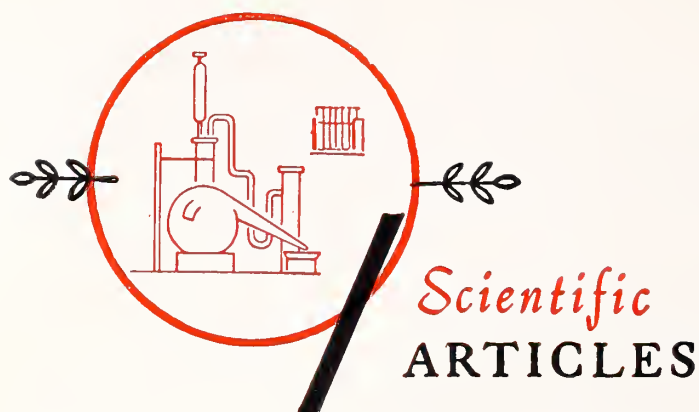
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American College of Physicians Issue

The JOURNAL is pleased to present the fourth annual American College of Physicians issue. Published here are the original papers and abstracts of papers from the regional meeting of the American College of Physicians, held in Topeka in February.

We would like to thank Dr. Newman V. Treger for his help in collecting the material, and the authors for allowing their papers and abstracts to be published.



Conspiracy of Silence

An Obstacle to Understanding the Patient

ROY W. MENNINGER, M.D., *Topeka*

IN SPITE OF THE increasing emphasis on emotional components in illness, many physicians are still reluctant to inquire into psychological symptoms or social factors connected with the patient's complaints. The patients, on the other hand, often avoid spontaneous mention of anything they fear might be regarded by the physician as "imaginary" or irrelevant. Thus, an unplanned but effective conspiracy of silence commonly develops between the physician and his patient, to the detriment of their joint purpose.

During the past five years, it has been the author's pleasure to carry on several series of continuing case discussion seminars for general physicians, some in the specialties and some in general practice, on the utilization of psychological medicine in their practice. This paper is based on case material presented and discussed by the participants of the seminars, summarized here with the purpose of calling attention to the existence of a silent conspiracy, and illustrating some of the many ways in which it operates.

Typical Patterns of Silence

From the case material presented, there emerged three patterns of silence about matters crucial to the

diagnostic and treatment process. The first is typified by the physician who is aware of questions he would like to ask the patient, but who hesitates or avoids asking for a variety of reasons.

Dr. H. described a 45-year-old, truculent, industrial plant worker who had persisting complaints of low back pain following a mild on-the-job injury. Even though he suspected that this chronic condition

From the discussions and experiences of seminar participants, it appears that the likelihood of a conspiracy of silence is greatest when significant, affect-laden issues of the patient somehow intrude into the doctor-patient relationship in ways which stimulate both the doctor and his patient to agree to avoid them as much as, and for as long as possible. With a more direct approach to these tacitly by-passed issues, the physician consistently found a greatly improved relationship with the patient, a renewed sense of confidence that what he was doing was what the patient needed, and a significant symptomatic improvement in his patient.

Presented at the annual meeting of the American College of Physicians, Kansas Chapter, in Topeka on February 19, 1965.

reflected considerable psychological distress in the patient, Dr. H. avoided asking about his life situation, his feelings or his problems, and confined his inquiry to the sequence of events at the time of the accident, the ways in which the symptoms limited his activity now, etc. In the seminar discussion, Dr. H. indicated some reluctance about asking so irritable a patient anything which might only upset him further and conceivably make matters worse. Moreover, the patient had definitely conveyed the feeling to the doctor that questions about anything other than the immediate presenting complaint were "none of the doctor's business."

Other participants acknowledged often having experienced uncertainty about what constituted legitimate inquiry, and what should be considered "out of bounds." It was not unreasonable, they felt, for the patient to feel annoyed with questions "off the point," i.e., not directly tied to the presenting complaint, and therefore it was not surprising that the physician should feel reluctant to press the inquiry. An extension of these views was the belief that not only might the physician and the patient both lose face in such an unwelcome encounter, but the physician might also lose the patient.

Dr. H. also reflected the common view that inquiries which may upset the patient are probably dangerous and may thereby produce lasting, serious mental damage. These outpourings of feelings are difficult and awkward to handle and in the opinion of many, reason enough to avoid them where possible. Further, these reactions are thought to signal or even produce a further deterioration in the patient's mental condition. For example, there is the common view that asking the patient if he has ever had thoughts of suicide is likely to suggest the idea if he had not had it before and, in turn, to lead to his doing so.

Although such views of patients as egg shells, and mental illness as easily caused by indiscrete questions are quite unrealistic, they are widespread beliefs, and reinforce the physician's reluctance to inquire into areas presumed to be sensitive. There is the belief that not probing is the best way to be supportive to and protective of a worried patient.

A second type of silence pattern is typified by the patient who is troubled by a question which he feels unable or too embarrassed to ask. Approaching the problem obliquely or thru broad hints, he may still fail to broach the problem adequately because the physician, having "caught on," responds to the delicacy of the issue by avoiding it also, for reasons outlined above.

Dr. W. reported a dilemma which illustrated this pattern of silence. A young man of 35, a patient of his for many years, came to him for advice and

counsel about a significant life decision which he faced. He had been a diabetic since childhood and hence had been followed closely by Dr. W. since that time. Although he showed evidence of early retinopathy and nephropathy, he was asymptomatic and unaware of the poor prognosis of his affliction. He discussed his life choice in terms that made it clear that he suspected his diabetes *might* eventually be a serious complication, but did not raise the issue directly. Rather, he continued to talk largely as if the choice rested entirely on the merits of the alternatives themselves.

During the seminar discussion, Dr. W. acknowledged having been aware of the latent question in the patient's having asked for advice and counsel. He had, however, felt unable to respond to the implicit request for discussion of the medical problem even though he, Dr. W., was quite convinced that the effects of the eventual diabetic complications would be a serious problem for the young man. He rationalized his decision to avoid the patient's questions on the grounds that other long-term diabetics he had followed had become so disturbed by the complications of the illness as to attempt suicide. He felt that it was probable that this patient, too, would be unable to stand knowing the possibilities which the future might hold.

Another form of silence, arising from questions unasked by the patient, is the circumstance in which the patient perceives his physician as interested only in bodily symptoms, evidence of organic disease, laboratory tests and x-rays, and believes that his worries about his relationship with his wife (for example) would be brushed aside by the physician as not germane or quite unrelated to the chief complaint. Fearful that his "irrelevant" concerns would be rudely handled, he holds his tongue except to talk about matters the doctor seems to want to hear.

These two patterns are familiar to all practicing physicians. Both arise from ideas of the patient and the physician about what is most relevant to the problem and what is permissible, tolerable or advisable to talk about. The choice to talk or not to talk, whether made wisely or not, is largely a conscious proposition, and reasons or rationalizations are available to each party in defense of his choice.

A third general pattern of silence differs in several important respects from those thus far discussed. In this form, the clues to the problem perturbing the patient are expressed in behavioral terms rather than verbal ones. Because they are not as clearly signaled by the use of words which the doctor is accustomed to using and able to recognize, their meaning may remain hidden, and the behavior itself ignored, minimized or rejected.

The bit of behavior which may serve to express the

problem may be a part of the patient's daily life which is not likely to be demonstrated in the physician's office. Only as a matter of chance might it come to the physician's attention, as in Dr. F.'s case described below. With other patients, their customary modes of reaction may produce behaviors within the doctor's office where he may observe it directly, as described by Dr. D. Or finally, the behavioral pattern of the patient may relate directly to the physician himself, as with Dr. C. in the third case, outlined below. In each case, the relative obscurity of the significance of the patient's behavior coupled with an absence of clear verbal clues generated a cover of silence around certain critical problems in the patient's life, and to which the physician unwittingly contributed by his initial failure to inquire about the behavior itself.

Dr. F. presented a case which illustrated the role played by an incidental clue expressed in behavioral term, and how the pursuit of this clue led to a breakdown in the increasingly frustrating conspiracy of silence.

The patient was a young wife of an Arabian businessman who anxiously sought medical attention with the fear that she had heart disease. Her demanding manner created problems from the outset, particularly when a thorough examination made it quite clear that she had no heart disease at all. Thus treated, she departed, only to return in two weeks with gastrointestinal complaints. The physician met this symptom shift with appointments for a GI series which proved to be negative. Pursuing her complaints of easy fatigability, he conducted an extensive hematologic review to rule out various possible blood syndromes. Finding none, he reported the case to the seminar at a time when he experienced considerable irritation and a rising sense of helplessness with her persisting complaining, balky cooperativeness, and lack of a clear treatable syndrome.

The discussion in the seminar focussed initially on attempts to find some answer through a more detailed survey of her history and clinical picture. The fruitless results of a focus narrowly confined to a review of signs, symptoms and laboratory studies became increasingly apparent. Dr. F.'s coincidental comment that his patient's husband treated her like a servant in the home turned the seminar participants' attention to the psychological environment and social circumstances of the patient outside the office. With this change in direction, Dr. F. suddenly realized he had a good deal of information about the special problems of adjustment which this Arabian woman had been having in a culture greatly different from her own. In the discussion which followed, it became evident

that this woman's symptoms were probably an idiosyncratic expression of the intense discomfort and anxiety she had felt in a new and strange environment.

As a result of this increase in his understanding of how the patient must feel and what these feelings might have to do with her presenting complaints, the physician subsequently talked with her about her adjustment difficulties. To his surprise, not only did she cease to be so demanding, and complain no longer of cardiac or gastrointestinal symptoms, but he found her a much easier patient to work with, and could forego a need to engage in further diagnostic surveys.

Dr. D. reported a case in which he contributed to a conspiracy of silence by his unwitting oversight of clues which were evident in retrospect in the behavior of the patient and her husband in his office. The patient was a young mother of two, with irregular menses and menorrhagia, who had already been advised by another physician that she did not need a hysterectomy in spite of her troublesome symptoms. For reasons which were not clear to Dr. D., she was not satisfied with this advice and came to him, with her husband, for a second opinion. Physical examination demonstrated little, but did not rule out the advisability of a diagnostic D & C. He suggested that they return to the first physician to discuss this, prescribed a tranquilizer, and did not see them again.

In the seminar discussion, Dr. D. described the scene in his office, in which the rather aggressive husband had given the history, described the symptoms and done all the talking while his wife, the patient, sat silently by. Only then did Dr. D. recognize that this unusual behavior of both husband and wife hinted at a problem more extensive than just a question of disordered uterine function. Subsequent information from her previous physician suggested that the husband had been trying to push his wife into an unwanted hysterectomy, apparently in order to permit his greater sexual freedom without a risk of more children. The physician's failure to inquire into their unusual behavior in the office arose not only from a preoccupation with the physical symptoms and their possible significance, but also from an unwarranted feeling that asking about such behavior was "outside" the proper domain of the physician, and that to break the resulting collusion of silence was to risk rebuff and an annoyed reaction from an obviously hostile spouse.

Dr. C. discussed a problem of a youthful asthmatic in his practice whose condition had remained relatively static in spite of a number of therapeutic measures. A man of some psychological sophistication, Dr. C. had attempted repeatedly but unsuc-

cessfully to learn more about the emotional climate of the household, suspecting that his patient's asthma found its origins there. As part of his medical approach to the illness, the physician decided to begin an extensive series of sensitivity tests to determine a possible allergic etiology. Noting that the family had not paid a bill in many months, he felt some reluctance about embarking on such elaborate and expensive diagnostic studies without some indication that payment would be forthcoming. With considerable hesitation, he broached the issue in a tentative comment to the mother, and was quite unprepared for the suddenness and violence of her response. She burst into tears, and fled from the office with her son. Shortly after, her husband made an angry call to the physician, accusing him of upsetting his wife and demanding something from her for which he, the father, had the responsibility. In spite of such an explosive introduction, matters with the family changed dramatically thereafter. The physician soon began to receive regular payments on the overdue bill, the mother for the first time began to talk with him about considerable personal and family turmoil—about which he had known nothing—and most impressively, his young patient's asthma virtually disappeared.

So long as the physician tacitly accepted the patient's behavior of non-payment without raising a question about it, he participated in what in retrospect appears to have been an unusual form of silent collusion. This issue appears to have been intimately linked to a whole chain of problems and reactions, the breaking of which (by interrupting the conspiracy of silence) led to such dramatic change. Of course, the physician had no way of knowing that his query about the bill would have such an effective outcome, but the episode illustrates the importance of inquiring about *any* aspect of the patient's behavior which deserves clarification, and especially those behaviors which impinge directly on the physician.

In summary, the patterns of silent collusion typified by these last three examples show the following characteristics:

(1) The clues to underlying problems are predominately expressed as behavior rather than in words.

(2) These behaviors are seldom connected in any obvious way to the presenting complaint of the patient, i.e., they seem irrelevant.

(3) These behaviors often generate reactions within the physician which thereby involve him in the conspiracy of silence; these reactions further tend to keep the underlying problems hidden from examination and out of the discussion.

(4) The physician is partially or completely un-

ware of the nature or degree of his involvement in the conspiracy.

Discussion

The tacit agreement between doctor and patient, whether witting or otherwise, to avoid areas presumed to be sensitive, or to rule "out of bounds" any discussion of the patient's life or his behavior which does not superficially seem to be *directly* related to the presenting complaint has three notable consequences.

(1) By the rules of the conspiracy, the focus must remain on the physical problem; the doctor must limit his efforts to treating these physical symptoms, and the patient must respond to these therapeutic efforts with improvement. But this implicit demand is hard to meet; neither party finds that these rules manage the rising sense of frustration and directionlessness that each feels. The patient continues to be bothered by oppressive feelings, often obligingly shifting from one organ system to another in order to stay within the rules of the conspiracy. For his part, the physician may shift from one medication to another, punctuating these therapeutic efforts with renewed diagnostic sallies: further x-rays, EKGs, and blood tests, partly to "keep moving," and partly in hopes that this time something new might be found. Ultimately, the rising titer of dissatisfaction produces an eruption of some sort—commonly in the form of breaking off the relationship by one or the other, and much less commonly, a breakdown of the conspiracy and a break into the parallel, emotion-laden issues burdening the patient. Although such a shift is usually accompanied by considerable relief for both the doctor and the patient, it seldom occurs spontaneously.

(2) The avoidance of any examination of the other areas of the patient's life may reinforce the mutual belief that matters of the mind and matters of the body belong in separate worlds: the former important only when psychosis supervenes and requires special psychiatric attention, and the latter sufficiently independent as to be managed by the physician without regard to the former. The effects of body-mind and mind-body interactions are missed. The patient continues to regard the physician as a man primarily interested in the body, less and less often considering him the person to whom to turn when problems mount or anxieties oppress. Often patients unconsciously adopt physical symptoms as their "ticket of admission" to the physician's office in the hopes that this effort to "speak the doctor's language" will lead to treatment for the bodily symptom, and beyond, to relief of the mental distress which it may express.

As a "ticket," or a mode of expressing mental anguish through body language, the symptoms may persist in spite of treatment, or change just enough

to keep the physician from abandoning hope (and the patient), and yet continually fail to deal adequately with the underlying feelings of despair, distress, anxiety or fear, as long as the conspiracy of silence immobilizes both doctor and patient from confronting the "non-somatic" feeling-laden issues which are also present.

(3) The conspiracy operates to constrict sharply the area in which the physician can move in the course of his investigation of the patient's problems. Whether this collusion of silence occurs as a consequence of deeply-ingrained teaching from medical school days about the singular importance of the physical signs and symptoms to the exclusion of all else, whether it occurs in mistaken response to cues that the patient is "emotional" and therefore fragile and liable to severe mental disorder at the hands of the physician, whether it follows from the physician's own reactions to the hostility and uncooperativeness of the patient, or whether it grows insidiously out of the patient's own behavior, the result is the same: the physician's hands are shackled, his usually curious

investigative spirit is stifled, and he is forced to "make do" with therapeutic compromises which he recognizes as insufficient, and which leave both him and the patient dissatisfied.

From the discussions and experiences of the seminar participants, it appears that the likelihood of a conspiracy of silence is greatest when significant, affect-laden issues of the patient somehow intrude into the doctor-patient relationship in ways which stimulate both the doctor and his patient to agree tacitly to avoid them as much as, and for as long as possible. It was repeatedly evident that the physician's part in this conspiracy of silence was commonly unwitting, although the effects of the collusion were usually manageable by the physician himself when discussion in the seminar called attention to its existence. With a more direct approach to these tacitly by-passed issues, the physician consistently found a greatly improved relationship with the patient, a renewed sense of confidence that what he was doing was what the patient needed, and a significant symptomatic improvement in his patient.

An Epidemic of Polymer Fume Fever

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(Abstract of a paper presented at the annual meeting of the American College of Physicians, Kansas Chapter, in Topeka on February 19, 1965.)

During a 90-day period an "epidemic" of polymer fume fever occurred in a large industry. Thirty-six out of 61 workers in one work area were afflicted. All of those involved demonstrated the classic history of an influenza-like syndrome with fever and chills occurring several hours after exposure to the products of pyrolysis of polytetrafluorethylene (Teflon). The majority of cases resulted from the smoking of cigarettes contaminated with a fine dust of this material. A study of pulmonary function of all workers involved demonstrated only changes that could be accounted for on the basis of smoking habits. Three individuals developed during the day, in association with the onset of symptoms, changes in function consistent with mild obstruction of the airways. While no serious consequences were observed, the effects of these illnesses upon the health and productivity of the group could have been prevented.

Therapeutic Trends in Rheumatoid Arthritis

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(Abstract of a paper presented at the annual meeting of the American College of Physicians, Kansas Chapter, in Topeka on February 19, 1965.)

Treatment of the chronic disease of unknown cause is seldom satisfying. Management is a better term. Diagnosis reflects experience of clinical patterns, exhibition of drugs is pragmatic.

The management of rheumatoid disease in the hands of all knowledgeable of it is grounded first in a "basic" program for the patient. A prescribed pattern of rest versus activity, indoctrination of the patient in prevention of or accommodation to deformity, and persistent salicylate administration are common denominators for all patients. Moderation in habits, maintenance of healthy function in other respects, and a sanguine and understanding physician-patient relationship are important. Such non-specific management alone will be successful in a majority of patients; it must underlie more complex care in the remainder.

Where disease is intense, where it is progressive de-
(Continued on page 499)

Left Axis Deviation

Vectorcardiographic Analysis of Patients With Left Axis Deviation

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IN 1956 GRANT studied left axis deviation by evaluating 672 consecutive patients on whom autopsies had been performed. Although left axis deviation had been described in patients with leftward anatomic position of the heart, incomplete left bundle branch block and left ventricular hypertrophy, Grant did not find that any of these was a common cause. One hundred and sixty of his patients had myocardial infarctions. Two thirds of the patients with anterolateral myocardial infarctions had left axis deviation while only one tenth of the patients without infarctions had left axis deviation. It was his impression that the left axis deviation occurred because of damage to the superior division of the left bundle. Banta and associates have recently studied cases of documented myocardial disease which had left axis deviation. They found that left axis deviation occurred in a wide variety of cardiopathies and concluded that diffuse myocardial involvement as well as left bundle damage could produce left axis deviation.

Left axis deviation without definite evidence of anterolateral myocardial infarction, left bundle branch block or left ventricular hypertrophy was frequently observed during the routine interpretation of electrocardiograms at the University of Kansas Medical Center. Therefore, this study was begun to determine whether the vectorcardiogram would give additional information concerning the significance of left axis deviation.

Materials and Methods

Vectorcardiograms were obtained from 100 patients whose routine electrocardiograms showed left axis deviation. There was no selection other than elimination of patients with obvious myocardial infarctions, left bundle branch block and left ventricular hypertrophy. Patients whose electrocardio-

grams were suggestive but not diagnostic of myocardial infarction were included. Electrocardiograms with a mean vector beyond zero degrees were included in the study. The electrocardiograms were standard 12 lead tracings. The vectorcardiograms were obtained in the frontal, right sagittal and horizontal planes on a Hart Vectorcardiograph, using the Grishman cube system of electrode placement (*Figure 1*). Where it was not possible to obtain initial forces

The electrocardiograms and vectorcardiograms of 100 patients having left axis deviation in the frontal plane were compared. Twenty-two patients who had no electrocardiographic evidence of myocardial infarction had vectorcardiographic evidence of infarction. The vectorcardiogram seems to be most helpful in the diagnosis of inferior infarctions. The study also showed that there is a higher incidence of myocardial infarction without electrocardiographic evidence in patients with left axis deviation greater than -30 degrees than in those between 0 and -30 degrees.

the loops were electronically shifted and amplified. The electrocardiograms and vectorcardiograms were evaluated separately by the authors. The electrocardiographic diagnosis of myocardial infarction was based on the presence of abnormal Q waves and the loss of R wave amplitude in the appropriate limb and precordial leads. Vectorcardiograms were analyzed for myocardial infarctions according to the criteria of Massie and Walsh.

The patients were divided into two groups according to the degree of left axis deviation. Group I was composed of patients whose electrocardiograms had a mean QRS vector between 0 and -30 degrees in the frontal plane (those having a QRS complex which was more positive than negative in lead II).

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This paper was presented at the annual meeting of the American College of Physicians, Kansas Chapter, in Topeka on February 19, 1965.



Figure 1. The normal horizontal loop has a small initial anterior force after which the efferent limb turns leftward and posteriorly. The loop then returns posteriorly and on the left. In the sagittal plane there is an initial deflection of the loop anteriorly and usually superiorly. The efferent limb then passes inferiorly and posteriorly in a clockwise direction. The loop in the frontal plane rotates in either a clockwise or counterclockwise direction and is oriented inferiorly and leftward.

Group II was composed of patients whose electrocardiograms had a mean QRS vector of greater than -30 degrees in the frontal plane (those having a QRS complex which was more negative than positive in lead II).

Results

Group I was composed of 78 patients. Thirty-seven patients had no evidence of infarction electrocardiographically or vectorcardiographically.

There were 18 patients in whom both the vectorcardiogram and electrocardiogram were compatible with myocardial infarction. The infarctions were located inferiorly in eight, anteriorly in four, posteriorly in three and inferolaterally in two.

The vectorcardiogram alone was indicative of myocardial infarction in 18 patients. All 18 had inferior infarctions.

The electrocardiogram alone was suggestive of myocardial infarction in five patients. The infarctions were located anteriorly in three, inferiorly in one and laterally in one.

Group II was composed of 22 patients. Only two patients had no evidence of infarction electrocardiographically or vectorcardiographically.

There were 15 patients in whom both the vectorcardiogram and electrocardiogram were compatible with myocardial infarction. The infarctions were located inferiorly in seven, laterally in four, anteriorly in three and inferolaterally in one.

The vectorcardiogram alone was indicative of myocardial infarction in four patients. All four had inferior infarctions.

The electrocardiogram alone was suggestive of myocardial infarction in only one patient. The infarction was located inferiorly.

Myocardial infarctions were found in 41 of 78 patients in Group I and in 20 of 22 patients in Group II. The incidence of patients demonstrating infarction was considerably higher than expected.

Discussion

In inferior myocardial infarction the diagnostic abnormalities appear in the right sagittal and frontal planes. The horizontal loop is usually normal (Figure 2). Massie and Walsh state that the chief diagnostic abnormality of the sagittal QRS loop, and the most consistent feature, in inferior myocardial infarction is the pronounced superior displacement of the initial portion of the loop. In addition, they observed counterclockwise inscription of the loop in two thirds of the vectorcardiograms they considered diagnostic of inferior infarction. In order to be more specific, abnormal rotation counterclockwise of the initial portion of the loop in the sagittal plane, as well as superior orientation, was required for a diagnosis of inferior myocardial infarction in this study. In their experience the frontal loop was characterized by a prominent deflection extending abnormally superiorly and rotating in most instances in a clockwise direc-

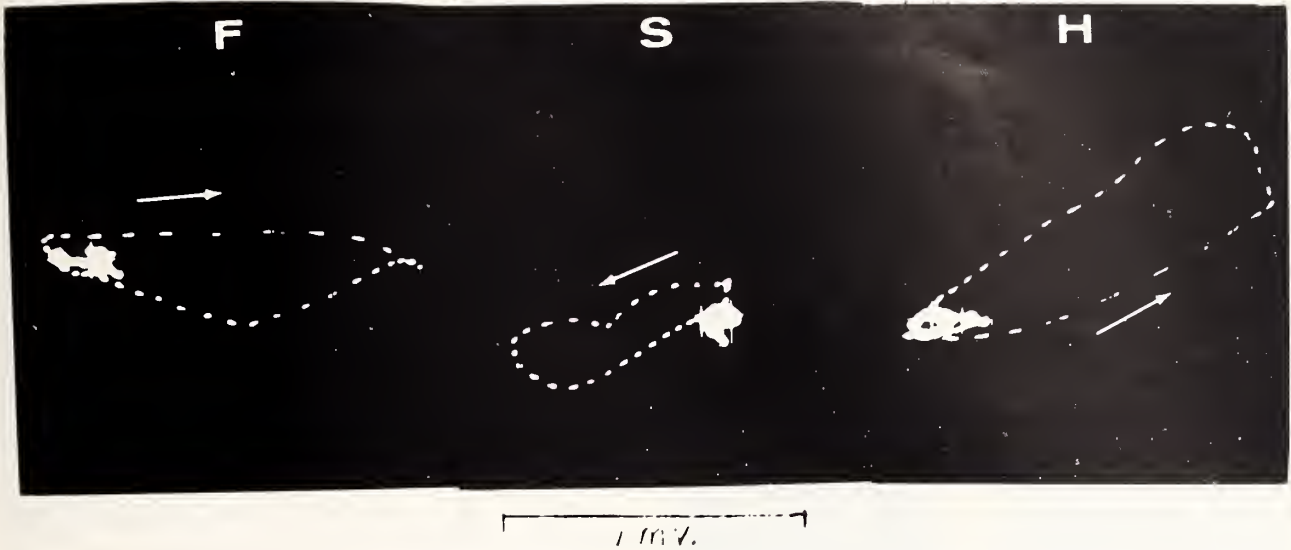


Figure 2. This vectorcardiogram in frontal, right sagittal and horizontal planes (from left to right) shows changes consistent with an inferior myocardial infarction as described in the text.

tion. In the present study, we also found the frontal loop characterized by an abnormally superior deflection of the afferent limb, but found that, in more than half, the loop rotated in a counterclockwise direction.

Although the direction of the rotation of the vector loop in the frontal plane can be determined from the electrocardiogram, the direction of rotation in the sagittal plane cannot be satisfactorily determined (Figures 3, 4). The vectorcardiogram shows changes in direction of rotation in the sagittal plane which are not evident on the electrocardiogram (Figure 5). This demonstrates the value of abnormal rotation of the vector loop in the diagnosis of inferior myocardial

infarction as well as the value of the vectorcardiogram in demonstrating abnormal rotation. This also shows that the abnormal rotation is due to inferior infarction and not left axis deviation alone.

In anteroseptal myocardial infarctions the diagnostic abnormalities appear in the horizontal and sagittal projections (Figure 6). The distinctive feature of the horizontal QRS loop is the absence of

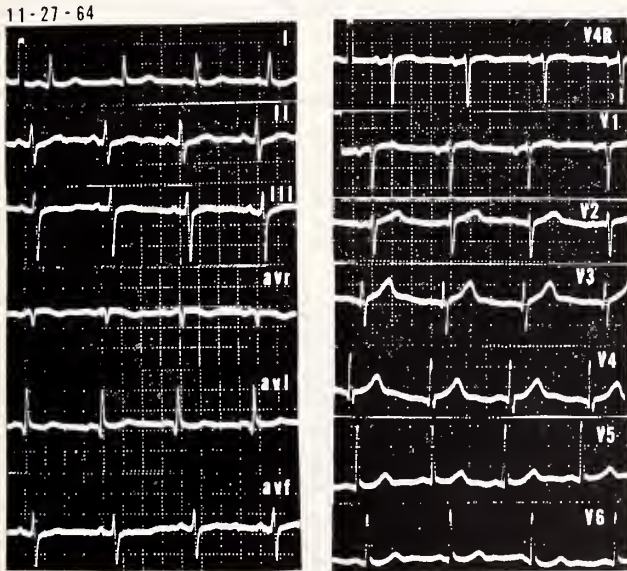


Figure 3. This electrocardiogram taken in November, 1964, shows an electrical axis of approximately -30 degrees.

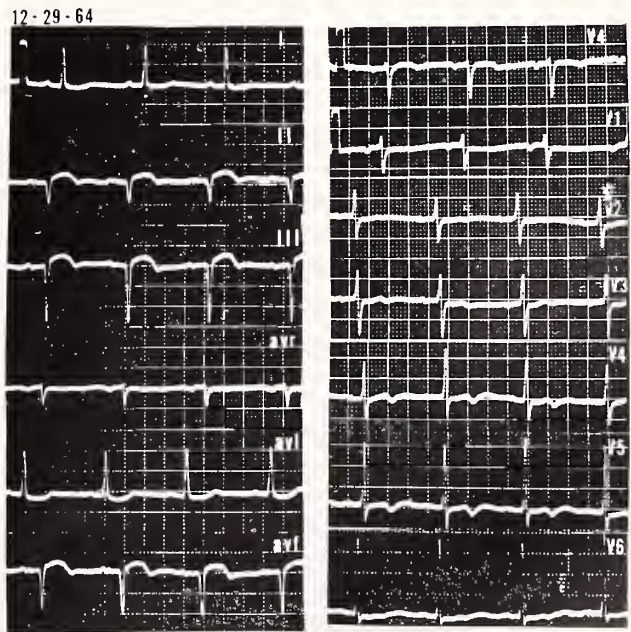


Figure 4. This is an electrocardiogram from the same patient as Figure 3, taken one month later. The tracing shows evidence of an acute inferior myocardial infarction with loss of R waves, and development of a QS complex and elevated S-T segments in leads II, III and aVF. There is very little change in the electrical axis in the frontal plane.

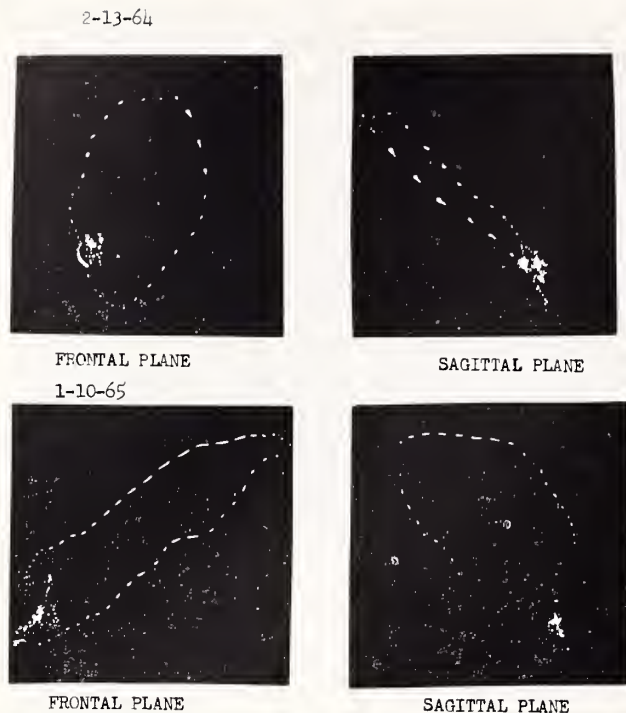


Figure 5. These vectorcardiograms show the sagittal and frontal planes done on the same patient as in Figures 3 and 4 before and after inferior myocardial infarction. The pre-infarction tracing (top) shows normal sagittal and frontal loops. The post-infarction loop (bottom) shows complete reversal of direction in both sagittal and frontal planes.

the normal initial deflection to the right and anteriorly. The loop rotates immediately to the left and posteriorly. The sagittal loop is marked by the absence of the initial deflection anteriorly. The loop is written immediately posteriorly and inferiorly or superiorly. If written inferiorly it has a clockwise rotation.³

If the vectorcardiographic criteria outlined above are diagnostic of myocardial infarction, 30 per cent of the patients in Group I without electrocardiographic evidence of infarction were found to have myocardial infarction. Sixty-six per cent of the patients in Group II without electrocardiographic evi-

dence of infarction showed vectorcardiographic evidence of myocardial infarction.

The specificity of the diagnostic criteria is important in judging the value of the vectorcardiogram. The study did not include any autopsy material and, therefore, there is no pathological documentation of infarctions. It is possible that other factors such as diffuse myocardial fibrosis can cause the vectorcardiographic changes simulating myocardial infarction. Banta *et al.* found left axis deviation in patients with neuromuscular disease in whom there was diffuse cardiac fibrosis. One of the patients in this study is a 28-year-old female who clinically has Refsum's syndrome. The syndrome is composed of multiple neurologic abnormalities and cardiac conduction abnormalities. Her vector loop was identical to those having the pattern of inferior myocardial infarctions. It is possible that myocardial fibrosis is an accompanying factor in this patient's disease and could account for the abnormal loop in the sagittal plane.

It was of interest that all 22 patients with only vectorcardiographic evidence of infarction had inferior infarctions. This may be due to the fact that it is more difficult to diagnose inferior infarctions electrocardiographically. Disappearance of the electrocardiographic evidence of inferior infarction with time in one per cent of patients⁴ would also contribute to the disparity between electrocardiographic and vectorcardiographic diagnosis. Finally, the vectorcardiographic criteria for diagnosis of inferior infarctions may lack specificity.

In six cases the electrocardiogram was suggestive of myocardial infarction and the vectorcardiogram was not. The site of infarction in one of these was posterolateral, in two inferior, and in three antero-septal. The electrocardiographic changes in the patient with the posterolateral myocardial infarction were abnormal Q waves in leads V3 and V4, and terminal S waves in leads V5 and V6.

It is conceivable that inferior infarction may be diagnosed electrocardiographically and not vectorcardiographically because it is not always possible to distinguish abnormal Q waves from those produced



Figure 6. This vectorcardiogram in the frontal, right sagittal and horizontal planes (from left to right) shows changes consistent with an antero-septal myocardial infarction as described in the text.

by normal septal depolarization in leads II, III and aVf. With left axis deviation septal depolarization is best seen in leads I and aVI and, for this reason erroneous electrocardiographic diagnosis was not made more frequently.

The vectorcardiographic diagnosis of anteroseptal myocardial infarction is dependent on the absence of the initial anteriorly-directed vector. The initial vector may be poorly defined using the Grishman cube system. In order to compensate for this in the diagnosis of anteroseptal infarction, initial forces were required to be directed immediately posteriorly. For this reason, it is conceivable that small anteroseptal infarctions with suggestive electrocardiographic evidence would be missed vectorcardiographically.

References

1. Grant, R. P.: Left axis deviation. *Circ.*, 14:233, 1956.
2. Banta, H. D.; Greenfield, J. C., and Estes, E. H.: Left axis deviation. *Am. J. Card.*, 14:330, 1964.
3. Massie, E., and Walsh, T. J.: *Clinical vectorcardiography and electrocardiography*. The Year Book Publishers, Chicago, 1960.
4. Pappas, M. P.: Disappearance of pathological Q waves after cardiac infarction. *Brit. H. J.*, 20:123, 1958.

Abstract—Therapeutic Trends

(Continued from page 494)

spite the basic program, where specific or socio-economic function cannot be maintained, therapeutic effort must be extended. Drugs to this purpose carry risk, none cure, little is understood of their action in modern biologic terms.

They may, however, be roughly grouped: (1) Added aspirin or Darvon may help discomfort. Codeine has an occasional place, other narcotics should be avoided. (2) Phenylbutazone, exhibited for a limited period, may reduce a peak of discomfort and inflammation. Indomethacin will be released soon, has a similar effect, and is safer. Each is less valuable in rheumatoid disease than in other arthritides. (3) Suppression of disordered or hyperactive immune systems has some rationale. The cholorquines have a mild effect. If the 50's could be called the decade of cortisone, the 60's may be the decade of the resurgence of gold. It is "safe" relative to its alternatives. (4) Immuran (Azothioprene) is the experimental drug currently used to achieve intense immuno-suppression permitting organ transplantation. It or its like will replace nitrogen mustard or 6-mercaptopurine for acute short term use to gain control of severe mesenchymal inflammation. Penicillamine shows some promise.

An exciting and rapidly gaining field is that of rehabilitative surgery, orthopedic and plastic. Feet, hands, and the all important thumb can be restored to usefulness. Synovectomy, alone, is often effective.

The splint and the crutch are very important to give local rest or relief of stress. Intra-articular corticosteroids are clearly to be preferred to general medication where a few joints are troublesome or lag behind otherwise successful management.

Burgeoning knowledge of microphysiology should soon give us tools and understanding to change from management to treatment in the true sense.

Lactic Acid Dehydrogenase Isoenzyme Profile of Human Urine

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(Abstract of a paper presented at the annual meeting of the American College of Physicians, Kansas Chapter, in Topeka on February 19, 1965.)

There have been numerous methods developed for the separation of LDH isoenzymes of serum, tissue homogenates, and effusion. The most practical of these methods utilizes primary electrophoresis, followed by histochemical localization. Quantification is obtained by scanning the completed electrophoretogram in a suitable scanning instrument. The LDH isoenzyme patterns depicted in serum have recently been shown to be of significant clinical value. An extension of a method of agar-gel electrophoresis employed in our laboratories for LDH isoenzymes in serum has been extended to a study of urinary LDH isoenzymes. Ten ml. of urine is concentrated 15 times by ultrafiltration, and subjected to agar-gel electrophoresis. Localization of LDH is performed on the electrophoretogram by utilizing lactic acid as substrate, and nitroterazolum blue, as a terminal receptor of hydrogen. The purple stained profile is clearly visible and adequate for quantification by scanning in a Spinco Analytrol. Total LDH is determined by a spectrophotometric method, which monitors the change in absorbance at 340 μ during conversion of DPN to DPNH. LDH isoenzyme profiles in normal, as well as in certain urogenital pathologic conditions, were presented in the paper.

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Starvation and Heart Failure

A Starvation Regimen for the Treatment of Intractable Heart Failure: A Preliminary Report

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IN 1923 GAMBLE noted that the initial weight loss in the fasting subject exceeded the amount expected from the utilization of endogenous calories alone. He found this excess weight loss was due to an increased excretion of salt and water in the early fasting period. More recently Bloom² compared sodium excretion in fasting patients and patients on low salt regimens. He also reported a significant increase in sodium excretion in the fasting state and found a linear relationship between weight loss and electrolyte excretion.

These observations were made on patients free of severe cardiac disease. Recently this physiologic response has been applied to the management of patients in congestive heart failure. Excellent results were recently reported by Merrill in a small number of selected cases. This is a report of our experience with the fasting regimen as a method of management of refractory heart failure.

Method of Study

The patients included in this study had severe cardiac disease and were selected for study only after they became refractory to usual diuretic management. Calorie-free fluid intake was limited to a maximum of 600 cc. per 24 hours and ranged from 200 to 600 cc. The studies were carried out on a general medicine ward so that the fluid intake and output was not totally accurate. The weights were felt to be reliable. During the fasting period digitalization was maintained but no form of diuretic was used. Fluid loss as recorded in the charts represents urinary output minus oral intake but no attempt was made to evaluate insensible fluid loss or fluid loss in the feces.

Case Reports

CASE NO. 1

A 78-year-old Caucasian female had previous admissions to the University of Kansas Medical Center

for cardiac decompensation, right femoral embolectomy and mitral valvotomy. At this admission she was confused, dyspneic, edematous and had bilateral pulmonary rales with hepatomegaly and ascites. Cardiac findings were compatible with mitral stenosis and insufficiency and the electrocardiogram showed atrial fibrillation with multifocal ventricular premature contractions compatible with digitalis intoxication.

The starvation regimen, when used in selected cases, can be a valuable adjunct in the management of intractable heart failure. The physiologic mechanism of this response must await further investigation.

cation. She failed to respond to readjustment of digitalis dosage, chlorthalidone, spironolactone and intermittent use of mercurials. A starvation regimen was started and the results are summarized in *Table 1*.

The patient's sensorium cleared as the electrolytes returned to normal, her cardiac decompensation subsided and she was discharged from the hospital.

The urinary electrolyte measurements were inaccurate because the bladder was irrigated with a solution containing sodium.

CASE NO. 2

This 49-year-old Caucasian male had progressive cardiac decompensation over a six month period. He was adequately digitalized and initially responded to chlorthalidone, a combination of chlorothiazide and spironolactone and intermittent mercurials. When admitted to the University of Kansas Medical Center he was confused, edematous, had bilateral pleural effusions and hepatomegaly. The heart was enlarged. Auscultatory findings were characteristic of aortic

Presented at the annual meeting of the American College of Physicians, Kansas Chapter, in Topeka on February 19, 1965.

TABLE 1

Day of Fast	1	2	3	4	5	6	7
Weight (lbs.)	151½	147	141½	140	136½	134½	131¾
Fluid Loss	480	400	200	480	550	190	800
Serum mEq/L							
Na	131	137	140	144	144	146	146
K	3.3	3.5	3.8	3.7	3.9	4.1	3.7
Cl	97	99	100	104	103	104	103

stenosis and insufficiency. The electrocardiogram was diagnostic of left ventricular hypertrophy. His response to fasting is summarized in *Table 2*.

A 900 cc. thoracentesis was performed on the third day, which partially explains the apparent discrepancy between weight and fluid loss. This patient demonstrated noticeable subjective improvement as well as diminishing orthopnea and dyspnea as his state of compensation improved and his electrolytes improved. His death early on the sixth day was entirely unexpected.

The autopsy showed severe calcific aortic stenosis. There was no immediate explanation for the death which was thought to be due to a cardiac arrhythmia. Since this is a frequent mode of death in patients with aortic stenosis it is difficult to incriminate the therapeutic regimen as a causal factor.

CASE NO. 3

The third patient was a 24-year-old Caucasian male who had experienced progressive cardiac decompensation for two years. On admission he was orthopneic, edematous and jaundiced. He had pulmonary congestion, bilateral pleural effusions, hepatomegaly and ascites. Cardiac findings were compatible

with mitral stenosis, tricuspid insufficiency and atrial fibrillation. With the use of digitalis, spironolactone and cyclic acidification followed by intravenous mercurials, the patient diuresed 32 pounds in 26 days but developed profound weakness due to electrolyte depletion. Although he was improved, he was still edematous and was sent home for two weeks before returning for a mitral valvotomy.

On readmission the starvation regimen was used for only a short period of time (*Table 3*).

Although the weight loss is not great, on usual diuretic management approximately twice this length of time would have been required to achieve the same results. It is also of interest that the serum electrolytes returned to more normal levels even though these had been relatively constant for several weeks.

CASE NO. 4

This 63-year-old Caucasian female was admitted in acute pulmonary edema. Her primary heart lesions were aortic stenosis and mitral stenosis. She had been in heart failure intermittently for ten years. She was digitalized, put on salt restricted diet and received diuretics. Additional digitalis, spironolactone, phlebotomy and rotating tourniquets were of little help.

TABLE 2

Day of Fast	1	2	3	4	5
Weight (lbs.)	159	154	146¾	140¾	138½
Fluid Loss	330	1,790	80	400	300
Serum mEq/L					
Na	110	110	119	125	124
K	5.3	5.1	4.9	4.6	3.6
Cl	69	67	71	76	76

TABLE 3

Day of Fast	1	2	3	4
Weight (lbs.)	151	149½	148½	146½
Fluid Loss	550	260	310	
Serum mEq/L				
Na	128	136	131	
K	6.2	6.2	5.6	
Cl	97	106	96	

The results of the fasting regimen are shown in Table 4.

There was a progressive rise in the BUN to 180 mg. per cent and of the uric acid to 22.4 mg. per cent. She expired two days after discontinuation of the starvation diet. Autopsy findings revealed severe calcific aortic stenosis and mitral stenosis with pulmonary congestion. A large mural thrombus was found in the left atrium.

Discussion

Although all patients diuresed on the fasting regimen, the mechanism of this diuresis is still obscure. Most patients seemed to experience a "free water" diuresis. When the urinary electrolytes were measured during the study, the 24 hour urinary sodium excretion ranged from 2 to 6 milliequivalents, the chloride from 1 to 15 milliequivalents and the potassium from 20 to 70 milliequivalents. The small sodium excretion was surprising and differed from the usual sodium diuresis noted when obese individuals are fasted. It is possible that total body sodium stores were depleted by previous diuretics obscuring the usual sodium diuresis. The large potassium loss in the urine is also of interest. Since these patients were not receiving potassium supplement, this probably represents endogenous potassium loss. This potassium loss may be partially responsible for the diuresis these patients experienced.

Bloom and Gersing^{4, 5} were able to inhibit the naturesis of fasting subjects by the administration of glucose whereas equivalent amounts of calories as protein or fat did not inhibit the naturesis. Since our patients exhibited salt retention, we were unable

to evaluate this property of glucose in the fasting state.

In Case No. 2 both urine and serum osmolality were quite low but the serum osmolality was greater than the urine osmolality, excluding the possibility of osmotic diuresis in this patient. No patient developed enough acidosis to account for the diuresis.

It is doubtful that either death in this study was due to the therapeutic program. Both patients had severe valvular damage which was confirmed by autopsy. Both were in severe congestive heart failure and neither had shown significant response to conventional forms of management.

Summary

It has been previously observed that weight loss in fasting subjects exceeds that which can be explained on a caloric basis. Bloom and Mitchell demonstrated a saluresis in fasting patients which exceeded that reported by Strauss *et al.* in patients on a low sodium diet. The therapeutic application of this information in dealing with intractable heart failure was recently pointed out by Merrill.

Three patients, presenting with severe congestive failure and dilutional hyponatremia, who had been resistant to digitalization, salt restriction and diuretics were started on a regimen of restricted fluid intake of 600 cc. or less per 24 hours and no calories. Digitalization was maintained but other diuretics were withheld. Patients were starved from five to seven days.

The subjects lost a mean of 2.9 pounds of weight per day and the diuresis was predominantly free water. Cardiac compensation and return of electrolyte balance was observed. The most surprising finding was the exceedingly low sodium excretion—ranging from 1.5 to 5 mEq. per 24 hours.

At the present time we are unable to offer an explanation for this phenomenon but wish to emphasize the efficacy of the starvation diet in the treatment of selected cases of congestive failure.

An additional patient presenting with severe failure but normal serum electrolytes was fasted with resultant diuresis, hemoconcentration, uremia and death. This points out the accompanying hazards with this procedure.

References

1. Gamble, J. L.; Ross, G. S., and Tisdale, E. S.: The metabolism of fixed base during fasting; *J. Biol. Chem.*, 57:633, 1923.
2. Bloom, W. L., and Mitchell, W., Jr.: Salt excretion in fasting patients; *Arch. Int. Med.*, 106:321, 1960.
3. Merrill, A. J.: Intractable heart failure; *Am. Heart J.*, 64:433, April, 1964.
4. Bloom, W. L.: Inhibition of salt excretion by carbohydrate; *Arch. Int. Med.*, 109:26, Jan. 1962.
5. Gersing, Al, and Bloom, W. L.: Glucose stimulation of salt retention in patients with aldosterone inhibition; *Metabolism*, 11:329, March, 1962.

TABLE 4

Day of Fast	1	2	3	4	5
Weight (lbs.)	140¼	136½	135	132	128½
Fluid Loss	400	900	1,270	615	425
Serum mEq/L					
Na	135		140	153	
K	3.5		3.6	3.1	
Cl	94		96	109	
Hemoglobin	18.9	19.4	20.5		20
Hematocrit	57.5	59	62		62
BUN	18	35	50	52	90
Uric Acid		13.5	15.6		15.8

Cancer Chemotherapy

Prolonged Survival in Multiple Myeloma

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IN RECENT YEARS there has been increased interest in chemotherapy of malignant disease. By far the greatest attention has been given to drugs attacking tumors of the reticulo-endothelial system.

Multiple myeloma has received renewed attention in this respect for a number of reasons. In the first place, it seems to be diagnosed more frequently because of improved methods of recognizing the abnormal serum proteins produced. The clinical characteristics of this disease are fairly well known and certain of them are susceptible of some quantitative or objective measurement that may aid in evaluating therapy, i.e. gross bony changes, the abnormal proteins found in blood and urine, and the hematologic changes. It is also of interest that one of the earliest antitumor drugs (*Urethane*®, Lilly) has been used for the treatment of multiple myeloma for many years (and only recently have more promising agents been reported).

Several studies indicate that the average life span of patients with multiple myeloma after diagnosis is one to one and a half years. The great bulk of patients are dead within two years of diagnosis of the disease. Fewer than 10 per cent of cases survive as long as five years. Most attempts to evaluate therapy in this and similar diseases rely on prolongation of average life span in a series of patients to demonstrate merit. However, there is frequently helpful information to be gained from the study of individual patients, particularly those who deviate from the average. We have under our care at the present time a patient with proven multiple myeloma who has survived more than seven years since the diagnosis of her disease.

Case Report

This married, white female was 45 years old when first seen at the Topeka Medical Center in 1957, complaining of pain radiating from the back of her neck to the scapulae, shoulders, and chest. This was associated with some nervous tension and a sensation of inability to take a deep breath. It had been present for several months and she had previously been examined elsewhere with a tentative diagnosis of

cervical nerve root compression. Her past medical history was generally noncontributory. She had been studied in 1950 for chest pains and been referred then to a psychiatrist. She had had low back discomfort intermittently for many years.

The initial physical examination was generally normal. The patient had a short, plump, pyknic physique. Prominence and angulation of the spine at

A case of proven multiple myeloma, still living more than seven years after diagnosis, is presented and the principle of treatment applied in her case is outlined. The merits of prolonged "maintenance therapy" in this disease are emphasized along with the importance of using maximum tolerated doses. Possible theoretical applications to the use of other agents, or treatment of other similar diseases, are discussed.

the cervico-dorsal junction was noted, with compensatory straightening of the lower thoracic spine. There was considerable spasm of the cervical musculature with limitation of motion. No neurologic deficit was noted.

X-ray examination showed normal heart and lungs, but in the spine a questionable narrowing of the second thoracic interspace was noted as well as osteoarthritic narrowing of the C5-C6 interspace. No other bony abnormalities were evident at that time. Urinalysis was normal. Blood count showed a hemoglobin of 11.8 gm. with a hematocrit of 34 per cent. The white blood count was 4,300 with a normal differential. Severe rouleau formation was noted. No plasma cells were seen. The erythrocyte sedimentation rate was 100 mm./hr. (Westergren). Total serum proteins were 7.4 gm. per cent with 3.8 gm. albumin and 3.6 gm. globulin. Paper electrophoresis showed a peak in the gamma globulin range. Examination of the bone marrow revealed an increase in plasma cells with focal replacement of bone marrow. The plasma cells were generally mature.

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The patient was started on Urethane, 1.0 gm. three times a day, and a short time later bilateral scalenus anticus section was done, with relief of her shoulder girdle pain. The hemoglobin rose to 12.6 gm. (Hct. 35 per cent) and the sed. rate fell to 50 mm. per hour transiently. The white count fell to a low of 1,600 one month after the beginning of treatment. Because of this and considerable nausea and vomiting the dose of Urethane was temporarily reduced and then discontinued. The hemoglobin soon fell to 9.5 gm. and the drug was resumed.

Four months after the initiation of treatment the patient began to complain of low back pain and sciatica, much more severe than in the past, and she was hospitalized for pelvic traction. X-rays revealed diffuse osteoporotic changes in the vertebrae, but only a few questionable lesions in the ilium suggestive of multiple myeloma. While in bed the patient made a sudden movement which produced multiple compression fractures of thoracic and lumbar vertebrae. Focal x-ray therapy was begun while Urethane was continued, until the patient developed a moderately severe pancytopenia with marked bleeding tendencies. Urethane was stopped and several transfusions given until the patient was able to maintain a reasonable blood count on her own. By this time her back was fairly comfortable and she was able to be up and about with a brace.

Two months later Urethane was resumed and the patient has taken it continuously since then. Attempts to maintain the dose at 3.0 gm. per day regularly produced nausea and vomiting not completely relieved by phenothiazines, etc. Therefore, the actual dose taken for the last five years has varied between one and two grams per day, usually 1.2 gm. per day. She has learned to take this as one dose at bedtime to avoid gastrointestinal distress. She has also been maintained continuously on an estrogen-androgen combination.

At the present time this patient is active and does most of the work in her home. She works part-time as a library assistant. She is careful to protect her back from strain but does not need a brace. Recently she broke a rib while sneezing and still has some chest discomfort. At her last visit, physical examination was normal except for the shortening and deformity of the spine and a nodule in the right sixth rib. A steady weight of 130 pounds has been maintained. Blood studies showed a hemoglobin of 12.5 gm. with 30 per cent microhematocrit. The white blood count was 4,300 with 87 per cent polymorphonuclear leukocytes, 9 per cent lymphocytes, and 4 per cent monocytes. Platelet count was 87,000, sedimentation rate 111 mm. per hour. Total proteins were 8.4 gm. per cent with 3.3 gm. albumin, 5.1 gm. globulin. Electrophoresis showed a great increase in gamma globulin

segment which constituted 35 per cent of the total proteins. X-rays showed little change in the generally moth-eaten appearance of the bones which had appeared in the first two years of observation.

An attempt to increase the dose of Urethane led to a fall in the white blood count and platelet count without increase in hemoglobin and she was advised to continue taking 1.2 gm. daily as before.

Discussion

Obviously a number of factors may influence such an unusual course in this disease. One of these would be an error in diagnosis. In recent years a number of similar disease entities characterized by increased production of abnormal serum proteins have been recognized and there has been a tendency to establish the diagnosis of multiple myeloma on the basis of protein analyses rather than the pathological changes in bone marrow. This leads to the inclusion of some cases of "macroglobulinemia" with a basically more benign prognosis. Also, certain infectious diseases may lead to gross increase in gamma globulins as well as plasmacytosis, and thus cause confusion. Finally, the relatively rare entity of solitary myeloma should be excluded. The case under consideration would seem to satisfy all reasonable criteria for the diagnosis of true multiple myeloma.

It is also evident that in any malignant disease there is considerable variability in the natural course from case to case. This patient had relatively mature plasmacytes in bone marrow which some authors feel indicates a favorable prognosis. However, in terms of the extent of bony involvement and degree of hyperglobulinemia, she seems to have had as serious involvement as the usual case, although perhaps the diagnosis was established earlier than usual.

Finally, one cannot but hope that the treatment administered, while not curative, may have been helpful in slowing the progress of the disease. In this respect, it is worth considering the principles applied. They have been advocated before but not always followed in practice.

In the first place, a "specific" antitumor agent was selected, after diagnosis was established, and administered in maximal tolerated doses. Although one does not hope to completely eliminate the abnormally proliferating cells it seems reasonable to attack them as vigorously as adverse effects will permit. As a corollary to this it seems wisest to continue the "specific" agent indefinitely, in a maintenance fashion. Careful consideration of the beneficial effects anticipated from the drug, as opposed to the adverse effects, along with close observation of the patient should make it possible to titrate to a satisfactory maintenance dose.

Secondly, supportive and adjunctive therapy tailored to suit the particular needs and circumstances at a

given time are helpful. In this case the local use of x-ray therapy to the spine, although contributing to a temporary crisis, was felt to be quite beneficial in producing comfort and healing of the pathologic fractures. It is also felt that the prolonged and persistent use of anabolic hormones has been beneficial to this patient in combating the bone damage which would be expected and promoting hematopoiesis. Throughout the course of her illness, anodynes, sedatives, antiemetics, and the like have been used as needed to counteract the symptoms of her disease or the adverse effects of the therapy administered, in order to achieve an active, useful, and reasonably comfortable existence.

The principles enunciated here would seem appropriate to the treatment of many diseases and more specifically in the application of any antitumor agent to multiple myeloma or similar neoplasm. They should be helpful to the physician faced with the problem of caring for such a patient.

References

- Study Committee of the Midwest Cooperative Chemotherapy Group: Multiple Myeloma—General Aspects of Diagnosis, Course, and Survival. *JAMA* 188:741-745, 1964.
 Magnuson, S., and Moloney, Wm. C.: Multiple Myeloma. *Disease a Month*, April 1960.
 Moloney, Wm. C., and Hogan, Jas. A.: The Management of Multiple Myeloma. *Med. Clinics of N. Am.* 46:1379 (September) 1962.

Electrocardiogram in Atrial Septal Defect with Special References to Changes with Age

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The electrocardiographic pattern characteristically associated with atrial septal defects of the secundum type is an incomplete right bundle branch block or the rSR configuration of the ARS complex in Lead V₁. Few observers have drawn attention to the role of age in the electrocardiographic changes of atrial septal defect. Our observations suggest that the electrocardiographic features of this defect may vary with age.

One hundred twenty five patients with atrial septal defects from the University of Kansas Medical Center were selected for electrocardiographic review. One hundred were randomly selected and 25 were selected because they were over the age of 35 years. Diagnosis was established in all cases by cardiac catheterization. Patients having other cardiac defects were excluded.

A qR or QR morphology in V₁ was encountered with increasing frequency in older age groups without evidence of pulmonary hypertension or abnormal septal depolarization. A negative P wave in V₁ was a common accompaniment of qR or QR complex in the same lead, and both were associated with moderate to severe right atrial enlargement radiographically.

Prolongation of the P-R interval was present more often in older patients, but did not appear to be related to the magnitude of the pulmonary flow; it was, however, commonly seen in conjunction with qR or QR in V₁, and may, therefore, be related to right atrial enlargement.

There was poor correlation, in general, between the hemodynamic data and the electrocardiogram. Patients with rS configuration in V₁, however, had small shunts and a normal-sized right atrium, and pulmonary hypertension of moderate to great severity was usually associated with Rs or slurred R type complexes in V₁.

Clinical Aspects of the Long-Acting Thyroid Stimulator

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(Abstract of a paper presented at the annual meeting of the American College of Physicians, Kansas Chapter, in Topeka on February 19, 1965.)

The recent discovery of an abnormal substance in the blood of patients with Graves' disease has stimulated interest as to its role in the pathogenesis of this disorder. The long-acting thyroid stimulator (LATS) has recently been identified as a 7S gamma globulin and is present in the serum of the majority of patients with hyperthyroidism or exophthalmos. Although variations in the titer of LATS have been correlated with the complications of Graves' disease (i.e. ophthalmopathy and pretibial myxedema), the change in LATS activity which might occur following treatment of Graves' disease has not been well documented.

Two patients with Graves' disease and high titers of LATS were studied during the course of treatment with propylthiouracil. Therapy was administered for one to two years during which time significant reduction or disappearance of LATS activity occurred. In both cases the disappearance of LATS correlated well with the clinical improvement of the patient and with the thyroid suppression test. This study indicates that it is possible to obtain a reduction of LATS following treatment of hyperthyroidism with an antithyroid drug.

Hemostasis—

The Usefulness of Current Laboratory Procedures in Its Evaluation

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THE SOLIDIFICATION of whole blood is only part of the complicated mechanism by which the human body protects itself from spontaneous hemorrhage and controls the amount of bleeding which occurs with trauma.

Actually, there are three factors which are important in the body's hemostatic mechanism:

(1) Normal resistance and contractility of blood vessels and an adequate supportive framework for them.

(2) Normal platelets.

(3) An adequate coagulation mechanism.

Evaluation of the adequacy of blood vessels depends partially on a careful clinical observation of vessels and tissues, which includes:

(1) Observation of a bleeding area (nasal, dental, cutaneous).

(2) Observation of surrounding tissue (inflammation, ulceration, deficiency of supportive framework).

(3) Observation of patient for generalized vascular abnormalities (congenital telangiectasia, anaphylactoid purpura).

(4) Microscopic observation of capillaries.

Despite the importance of the vascular factor, there are only two laboratory procedures which are available to test this function. The first of these, the tourniquet test, though very unreliable, may be positive in patients with vascular fragility and also in patients with thrombocytopenia. If the test is negative the finding is of no significance.

The bleeding time, preferably done by the Ivy method, indicates the capacity of a patient to seal off a small wound and is a better measure of vascular function. However, a normal test does not give absolute assurance that vessels are normal, as the test characteristically gives variable results in patients who are "vascular bleeders." It is my impression, after carefully doing Ivy bleeding times on hundreds of patients, that the finding of a prolonged bleeding time is always significant. It is often the only positive finding in patients with vascular abnormality. There is no other test which can be substituted for it, and

The solidification of whole blood is only part of the complicated mechanism by which the human body protects itself from spontaneous hemorrhage and controls the amount of bleeding which occurs with trauma. Normal resistance and contractility of blood vessels and supportive framework for them, normal platelets, and adequate coagulation mechanism are three important factors to be considered. Most important of all is to evaluate not a test but the patient who has a bleeding problem and to realize that no single test is adequate as a comprehensive screening procedure.

while it leaves much to be desired in sensitivity, it is a *must* in any hemorrhagic work-up.

Measurement of Platelets

Number:

- (1) Platelet count (too few or too many).
- (2) Observation of platelets on blood smear (number, clumping, size).

Function:

- (1) Vascular (sealing off defects, vasoconstriction).
 - (a) Tourniquet test.
 - (b) Bleeding time.
- (2) Thromboplastin generation.
 - (a) Thromboplastin generation test.
 - (b) Prothrombin consumption test.
- (3) Clot retraction.

The evaluation of platelet numbers is relatively easy and requires a platelet count or observation of stained platelets on a blood smear. The platelet count is notoriously inaccurate and, personally, I prefer to observe the platelets on a blood smear for number, clumping and morphology.

Adequate platelet numbers do not, however, assure normal platelet function. Platelets act first by clumping to seal off small vascular defects and in the

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maintenance of local vasoconstriction. They also liberate a factor which is essential for normal thromboplastin generation and are essential for normal clot retraction. Thus, at least three different tests may be done to evaluate platelet function. Fortunately, defects of platelet function are rare and such testing does not have to be done routinely. Because of the difficulties of performing the standard thromboplastin generation test in which actual platelets are isolated and used, we have most often used the bleeding time, prothrombin consumption test, and clot retraction in evaluation of platelet function.

The Coagulation Tests

The actual coagulation mechanism is a complex process by which blood becomes solidified in a blood vessel and thus forms a hemostatic plug to prevent further blood loss from the vessel. Our present knowledge includes descriptions of at least ten separate enzymes which are involved in this process. The traditional clotting time test theoretically measures all of these factors and has been the most popular of the coagulation tests since its description in 1913 by Lee and White. This test should no longer be used as a general screening test because it is insensitive to most mild or moderate bleeding disorders. It is normal in patients with vascular abnormalities, thrombocytopenia, and in at least 25 per cent of patients with coagulation factor defects. Its main usefulness should be in following patients on heparin therapy or in conjunction with other tests such as the prothrombin consumption test which utilizes the study of blood after clotting.

Recently there has been a surge of interest in the use of the partial thromboplastin time test as a single screening procedure for surgical patients, or at least as a substitute for the clotting time test. This is supposed to detect deficiencies in all plasma coagulation factors except Factor VII. Obviously it does not in any way measure vascular or platelet function. It is only relatively sensitive to deficiencies of the factors necessary for the generation of thromboplastin, and in patients with hemophilia the concentration of antihemophilic globulin must be below ten per cent of normal before the test will be consistently abnormal. The fact that it is quite insensitive to deficiencies of the so-called prothrombin factors is evidenced by the fact that most patients on anticoagulant therapy with moderately prolonged prothrombin times give normal results with the partial thromboplastin time test. It may be used as a substitute for the clotting time, but should never be used alone as a single screening test.

The thromboplastin generation test is the most sensitive test available for detecting defects in the initial stage of coagulation, that of thromboplastin

generation. In patients with hemophilia the test will probably be abnormal when the concentration of antihemophilic globulin is 20 per cent or less. The standard test is too difficult and time consuming to use as a screening procedure, but there are two simple modifications which can be used in place of it. One is the Hicks-Pitney procedure which utilizes diluted plasma and a platelet substitute. In our laboratory we use an original technique which utilizes diluted whole blood. Both of these are relatively easy to perform and quite sensitive. Neither test, however, gives any information about platelet function or about Stages II and III of coagulation.

The prothrombin consumption test measures essentially the same factors as are measured by the thromboplastin generation test, although this is done indirectly. It is not as sensitive as the thromboplastin generation test in detecting plasma factor defects. However, it may be very useful in assessing platelet function.

The prothrombin time remains one of the simplest and most accurately performed of the coagulation studies. Besides its usefulness in following patients on anticoagulants, it is an excellent screening test for the five factors involved in Stages II and III of coagulation. If the prothrombin time is normal one can automatically rule out any significant deficiency of prothrombin, fibrinogen, and Factors V, VII and X.

Prothrombin time is prolonged when:

- (1) Fibrinogen is <100 mg. per cent.
- (2) After administration of heparin.
- (3) Prothrombin is <10 per cent of normal.
- (4) Deficiency of Factors V, VII and X.
- (5) Circulating anticoagulant.

Since a whole blood clot is really the vascular plug, it seems ironical that in our rush to try all of the new coagulation procedures we have so often forgotten to observe the clot itself. For this reason tests which observe a clot for retraction, character, and lysis may sometimes give us answers which are not found with more scientific tests. The phenomenon of clot retraction was first described in 1819, and although we now understand a great deal more about the process which results in the evolution and retraction of a clot, we still measure and report this test in much the same way.

Available Laboratory Tests

Following is a list of the most important laboratory tests which are now available:

- (1) Examination of a blood smear for platelets or a platelet count.

(2) *Bleeding time and tourniquet test* to evaluate vascular integrity and platelet function.

(3) *Clotting time and partial thromboplastin time (PTT)* to measure over-all coagulation. These are most often abnormal in the defects of thromboplastin formation (Stage I) and circulating anti-coagulants.

(4) *Thromboplastin generation test (TGT) and prothrombin consumption* to measure only Stage I defects.

(5) *Prothrombin time* to measure defects in Stage II and Stage III (deficiencies of prothrombin, V, VII, X, and fibrinogen).

(6) *Character of the clot and clot retraction.* These depend on platelets, fibrinogen, thrombin, etc.

(7) *Clot lysis.*

(8) *Quantitative fibrinogen.*

However, most important of all is to evaluate not a test but the patient who has a bleeding problem and to realize that no single test is adequate as a comprehensive screening procedure. The doctor must consider separately the adequacy of the patient's blood vessels, platelets and clotting mechanism and the way in which these complement each other in a given individual. Since most of our present laboratory procedures are obviously not very sensitive, it is most certainly our hope that better tests will be developed which will be within the range of the average hospital laboratory.

References

Butz-Olsen, O. E.: *Clot Retraction*. Springfield, Illinois: Charles C Thomas, 1951.

Schklarewsky, A.: Zur Extravasation der weissen Blutkörperchen. *Plueger Arch. Ges. Physiol.*, 1:657, 1868.

Diggs, L. W.: Observation of the clot. *Memphis and Mid-South Med. J.*, Sept., 1962.

Bizzozzero, G.: Über einen neuen Forbestandtheil des Blutes und dessen Rolle bei der Thrombose und der Blutgerinnung. *Virchow Arch. Path. Anat.*, 90:261.

Pratt, J. H.: A critical study of the various methods employed for enumerating blood platelets. *JAMA*, 45:1999-2003, Dec., 1905.

Duke, W. W.: The relation of the blood platelets to hemorrhagic disease. *JAMA*, 60:1185-1192, 1910.

Ivy, A. C., Shapiro, P. F. and Melnick, P.: The bleeding tendency in jaundice. *Surg. Gynec. Obstet.*, 60:781-784, Jan., 1935.

Lee, R. I. and White, P. D.: A clinical study of the coagulation time of blood. *Amer. J. Med. Sci.*, 145:495, 1913.

Addis, T.: Hereditary hemophilia. Deficiency in the coagulability of the blood, the only immediate cause of the condition. *Quart. J. Med.*, 4:14-32, Oct., 1910.

Quick, A. J.: The prothrombin in hemophilia and in obstructive jaundice. *J. Biol. Chem.*, 109:73-74, 1935.

Houghie, Cecil: *Fundamentals of Blood Coagulation in Clinical Medicine*. New York: McGraw-Hill, 1963.

Quick, A. J.: Studies on the enigma of the hemostatic dysfunction of hemophilia. *Amer. J. Med. Sci.*, 214:272, 1947.

Biggs, R. and Douglas, A. S.: The thromboplastin generation test. *J. Clin. Path.*, 6:23-29, Feb., 1953.

Hicks, N. D. and Pitney, W. R.: A rapid screening test

for disorders of thromboplastin generation. *Brit. J. Haemet.*, 3:227-237, 1957.

Bell, W. N. and Alton, H. E.: Brain extract as a substitute for platelet suspensions in the thromboplastin generation test. *Nature*, London, 174:880-881, Nov., 1954.

Sirridge, M. S., Bowman, A. B. and Allwin, J. F.: A simple whole blood screening test for disorders of thromboplastin generation. *Am. J. Clin. Path.*, 37:551-556, 1962.

Langdell, Robert D., Wagner, R. H. and Brinkhous, K. M.: Effect of antihemophilic factor on one-stage clotting tests. *J. Lab. and Clin. Med.*, 41:637-647, April, 1953.

Quick, A. J. and Geppert, M.: Screening for bleeding states—the partial thromboplastin test. *Am. J. Clin. Path.*, 40:465-472, Nov., 1963.

Miale, J. B.: Routine evaluation of bleeding tendency in surgical patients. *JAMA*, 185:752-756, Sept. 7, 1963.

Nye, S. W.; Graham, J. B. and Brinkhous, K. M.: The partial thromboplastin time as a screening test for the detection of latent bleeders. *Amer. J. Med. Sci.*, 243:279-287, March, 1962.

Margolis, J.: The Koalin clotting time. *J. Clin. Path.*, 11:406-409, Sept., 1958.

Proctor, R. R. and Rapaport, S. J.: The partial thromboplastin time with Koalin. *Amer. J. Clin. Path.*, 36:212-219, Sept., 1961.

Biggs, R. and McFarlane, R. G.: *Human Blood Coagulation and Its Disorders*. Philadelphia: F. A. Davis Co., 1962.

Ratnoff, O. D.: *Bleeding Syndromes*. Springfield, Illinois: Charles C Thomas, 1960.

Stefanini, M. and Dameshek, W.: *The Hemorrhagic Disorders*. New York: Grune and Stratton, 1962.

Studies on the Use of Fluoride in Osteoporosis

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It has long been known that fluorosis produces increased bone density; therefore, it seemed reasonable to postulate that fluoride would be useful in the treatment of osteoporosis. Fluoride replaces the hydroxol ion in the hydroxyapatite crystal. This in turn increases the crystallinity of bone. These two factors render bone crystals less soluble in extracellular fluid.

Calcium balance and Ca-45 dynamic studies were performed on seven patients with osteoporosis. Studies were done before and after treatment with sodium fluoride in doses of 1 mgm fluoride/kilogram body weight. Total exchange calcium pools were reduced by fluoride administration. "Bone formation" and "resorption rates," in other words, bone turnover, was reduced. Calcium balances improved slightly during treatment.

An "exempt" narcotic medicine isn't exempt from federal distribution controls. It can be obtained without a doctor's prescription only because its safety when used as directed has been established under rigid examination by federal and medical authorities.



Edema Progressing From the Lower Extremities to the Trunk and Upper Extremities

THIS WAS THE FIRST KUMC admission for this 46-year-old white woman from Salinas, California, who had a chief complaint of swelling of the feet, legs and abdomen for four and one-half months.

She had been in good health until the gradual onset of the swelling of both feet. Except for a feeling of stiffness in her feet she denied other symptoms as the swelling extended up both legs to involve the thighs and then the abdomen in the following weeks. As the swelling of her abdomen progressed she noticed that she "filled up quickly" when eating, though her desire for food remained. About a month after the onset of her edema she began to have breathlessness on mild exertion, but she had no orthopnea. She was admitted to a hospital in California, and was given diuretics. This treatment afforded her some relief of the swelling, but it returned after her dismissal. On the advice of her sister she came to Kansas City to seek further medical attention. At that time her symptoms were unchanged except for some increase in the dyspnea and the onset of an occasional, dry, nonproductive cough. In Kansas City she was admitted to two local hospitals in succession in the month before admission to KUMC. At the second of these she underwent exploration of her abdomen and biopsy of the liver. In the postoperative period she developed swelling of her right arm for the first time. She also had some swelling and tenderness in the right side of her neck and shoulder. Two weeks after the operative procedure she was transferred to KUMC for further evaluation.

At the age of six weeks she had measles, and was

later told by her parents that she was gravely ill at that time. Starting at the age of 18 years she had irregular menses with episodic nausea and vomiting for several years. The patient's menses ceased at approximately the onset of the present illness. When she was 17 years old all her teeth were carious and were removed, and she had some difficulty with gingival bleeding. At the age of 23 she had a ruptured tubal pregnancy that required laparotomy and salpingectomy. She denied serious injuries; had no known allergies; and took no medication before the onset of her present illness. Her usual weight was 120 to 125 pounds, but she said she weighed 134 pounds at the time of hospitalization in California.

The patient was a housewife, had never used alcohol or tobacco. She recalled no exposure to toxic agents. The family history was not remarkable.

The patient's blood pressure on admission was 115/80; pulse rate, 104 per minute; respiratory rate, 22 per minute; temperature, 98°; and weight, 120 pounds. She was a thin, white woman appearing chronically ill but in no acute distress. She was alert and oriented. There was mild erythema of the malar eminence bilaterally, and an irregular area of hyperpigmentation on the left side of her neck. Her sclerae were slightly icteric. The pupils were round and equal, external ocular muscle function was intact and the optic fundi were normal. Her tongue was red but not enlarged, and it appeared to be slightly decreased in papillation. There was tenderness in the right supraclavicular area, and a few small shotty nodes were found there. There was pitting edema of the right arm and hand. The right hemithorax was dull in the lower half, and vocal fremitus was diminished. No rales were heard. The breasts were free of masses. There was a soft, medium pitched, grade one systolic murmur at the apex and the heart tones were normal

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in intensity and quality. There was a healing mid-line abdominal incision with suture material in place. The abdomen was distended, and a fluid wave was present. The liver was palpable 10 cm. below the costal margin, and was firm, sharp-edged, and non-tender. The spleen was firm and palpable 5 cm. below the left costal margin. There was 1 plus pitting edema of the abdominal wall, the flanks, and the posterior lower thorax. There was 2 to 3 plus pitting edema of both legs with no tenderness. The neurological examination was not remarkable.

The urine on admission had a reaction of 7.5, and the specific gravity was 1.012. There was 1 plus albumin, but no sugar present. There were 6 to 8 white blood cells and occasional red blood cells per high power field. Her hemoglobin was 15.7 Gm. per cent; hematocrit, 56 per cent; white count, 15,860 with 83 per cent neutrophils (80 per cent filamented and 3 per cent non-filamented), 12 per cent lymphocytes, 2 per cent eosinophils, and 3 per cent monocytes. Platelets were 228,000. The blood urea nitrogen was 28.5 mg. per cent and the fasting blood sugar 67 mg. per cent. The serum bicarbonate was 24.4 mEq; sodium, 138 mEq; potassium, 3.5 mEq; chloride, 98 mEq; calcium, 5.2 mEq; and phosphorus, 1.4 mEq per liter. The alkaline phosphatase was 7.3 millimol units; SGOT, 51 units; total serum bilirubin, 2.7 mg. per cent; and direct bilirubin, 1.2 mg. per cent. The cephalin cholesterol flocculation was 1 plus, thymol turbidity, 17 units; total serum protein, 4.98 Gm. per cent (albumin, 2.96 Gm. per cent, and globulin, 2.02 Gm. per cent). Serum cholesterol was 226 mg. per cent, and was 54 per cent esterified. The sedimentation rate was 1 millimeter in one hour. Serum iron was 30 micrograms per cent with a total iron binding capacity of 158 micrograms per cent for 19 per cent saturation. The LE cell preparation was negative. Tuberculin and histoplasmin skin tests were negative. The serum bilirubin on the 17th hospital day was 2.0 mg. per cent total and 1.0 mg. per cent direct. Two days before death the serum sodium was 132 mEq; potassium, 8.2 mEq; chloride, 97 mEq; and bicarbonate, 14.4 mEq per liter. On the day before death the serum sodium was 130 mEq; potassium, 6.2 mEq; chloride, 92 mEq; and bicarbonate, 21.5 mEq per liter. The blood urea nitrogen was 44 mg. per cent at that time.

Because of the patient's dyspnea a right thoracentesis was done soon after admission. This afforded her some relief. Her abdomen regressed somewhat in size during the first week on salt restriction and rest. Ten days after admission she began to develop periorbital and then generalized facial edema. Shortly thereafter both jugular veins were noted to be greatly distended, and the patient complained of the feeling of "tightness in her neck" with the sensation of

"smothering." She also complained of weakness and her systolic blood pressure fell to 85 to 95 mm. of mercury. The cardiac rate rose to 120 per minute.

Although her edema regressed somewhat at times she continued to collect fluid in the right chest requiring repeated thoracenteses. Her fluid intake was poor and her urine output ranged from 200 to 500 ml. per day. Two days before death she became cyanotic except for her face. Her blood pressure fell gradually until it was unobtainable. A pulse was palpable only in the carotids. In spite of this she remained rational though extremely weak. On the day of death she could not move her extremities, could not move her eyes to the right, and appeared to have a right facial weakness. Her cyanosis remained despite oxygen inhalation. The blood pressure became unobtainable despite all efforts to raise it. The evening before death for a 30 minute period the patient had mild tonic seizures of all extremities lasting for approximately five seconds and occurring at 30 to 60 second intervals. These ceased spontaneously. Her respirations became more and more labored. She began to retain respiratory secretions and expired quietly on the morning of the 34th hospital day.

Dr. Mahlon Delp (moderator): Are there questions for Dr. Carlson?

Carlos Kemper (student):* Was Broadbent's sign or paradoxical pulse present?

Dr. John D. Carlson (resident in medicine):** There was a question of this by some examiners, but I did not think so.

Gayle Kenoyer (student): Was there any sign of development of collateral circulation either of the abdomen or the thorax?

Dr. Carlson: No, we could not see any.

William Toalson (student): Could we have a description of the ascitic fluid or pleural fluid.

Dr. Carlson: The pleural fluid was clear and amber colored.

David Palmer (student): Was there a history of fever before admission, or did she have fever during her hospital stay?

Dr. Carlson: None before her hospitalization; there were several recordings of rather low grade fever, very transient, during her hospital stay.

Martin Vancil (student): Was this patient fluoroscoped during her admission, and, if so, were any abnormalities noticed?

Dr. Carlson: Yes, she was fluoroscoped, and there were no abnormalities noticed.

Paul Rouse (student): Did she develop a signifi-

* Although a student at the time of the conference in February, 1963, he, like the others referred to as students, received the M.D. degree in June, 1963.

** Although a resident in medicine at the time, Dr. Carlson is now in private practice.

cant murmur during her hospitalization and if so did it change?

Dr. Carlson: A week or so prior to death there was a louder murmur. There was a thrill at the left border that remained until the time of her death.

Mr. Rouse: Was this thrill systolic?

Dr. Carlson: Yes.

John Wertzberger (student): Was cervical venous distension present on admission; were venous pulses described; and was the hepatojugular reflex?

Dr. Carlson: There was no severe venous distension at the time of admission but it developed later. No hepatojugular reflex was found.

Mr. Vancil: Venous pulses?

Dr. Carlson: No.

Mr. Rouse: Were coccidioidomycosis skin tests done?

Dr. Delp: No.

Miss Kenoyer: Was a palpable abdominal mass other than the liver and spleen found in this woman?

Dr. Carlson: No.

Mr. Toalson: Terminally she had a systolic blood pressure of 85 to 95. What was the terminal diastolic pressure?

Dr. Carlson: Terminally she had no obtainable blood pressure.

Mr. Toalson: I mean at the time she had the 85 to 95 systolic pressure.

Dr. Carlson: These were recorded in the area of about fifty.

Mr. Kemper: Could we have a better description of the blood pressure in between these two times? Did she have blood pressure with a rise of the diastolic and a fall in systolic at any time?

Dr. Carlson: No. There was a period after pressure fell to about 80 to 90 systolic. It remained in this area and the diastolic pressures were pretty stable at about 50 to 60.

Mr. Wertzberger: Was she digitalized and were there any beneficial effects?

Dr. Carlson: Yes, she was digitalized. We could see no change.

Mr. Rouse: What weight variation did she have during her hospitalization?

Dr. Carlson: Her admission weight was 120 pounds. This fell to the lowest reading the week before death of 106. There is some question about this from time to time. At first she was able to stand and then was put on the bed scales, and this might account for the variation.

Mr. Vancil: Was there any change in the hepatosplenomegaly?

Dr. Carlson: Yes, after about one week the spleen was noticed to be of a natural size, and then after approximately two weeks it began to get larger as it was on admission.

Mr. Kemper: Was a pelvic or rectal examination done, and did she have a febrile illness associated with her dental extractions when she was 17?

Dr. Carlson: The rectal examination was not remarkable. The pelvic examination did not show much.

Mr. Toalson: Did the malar erythema persist or did it develop into a rash during the course of her illness?

Dr. Carlson: No, it persisted, there were a few, very fine telangiectasias on the malar eminence as a very mild blush. This was not a rash. As to the other question I did not answer, we have no record of a febrile episode with her dental extraction.

Question from the audience: Was there another platelet count recorded?

Dr. Delp: Yes, there were quite a number of them. They went down as low as 29,000.

Mr. Palmer: Could we have a better description of the hematologic picture than recorded here?

Dr. Delp: The white count was 15,850; hemoglobin, 15.7 Gms.; 83 neutrophils; 12 lymphocytes; 228,000 platelets; and reticulocytes, 4.2. Subsequently a white count of 4,230; hemoglobin, 14.3 Gms.; 97 neutrophils; 3 lymphocytes; 102,000 platelets. Subsequently white count, 2,810; hemoglobin, 13.2; 47 neutrophils; 32 lymphocytes; 29,000 platelets. Subsequently white blood count, 6,090; hemoglobin, 14.5 Gms.; 76 neutrophils; 23 lymphocytes; and 887,000 platelets.

Electrocardiograms

Mr. Rouse: We have three electrocardiograms with this case. The first was taken on September 17 and it shows a sinus tachycardia of approximately

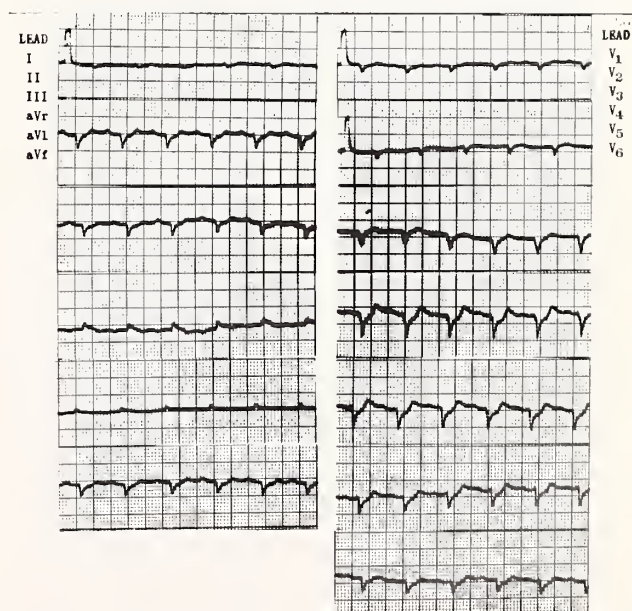


Figure 1. Electrocardiogram taken on October 15, 1962.

120 beats per minute. The only striking abnormalities that I see are those of diminished amplitude of the complexes throughout the tracing, and a poor progression of the R waves across the precordial leads. An electrocardiogram taken 11 days later is not too different from the previous tracing with the exception that throughout all leads we see a further diminution of the amplitude of the complexes. The P waves in some leads are almost as tall as the QRS complexes. In the lateral precordial leads there is a poor progression of the R wave across the chest, and there is some cupping of the ST segments which is compatible with the digitalis effect. The last electrocardiogram that we have on this patient was taken on October 15 (*Figure 1*). As in the previous two there is a decreased amplitude in the complexes throughout the tracing. The Q and the R waves are almost absent. I think there is a deepening of the S wave. This could be suggestive of anterior septal damage or even a lateral wall infarct, but I cannot be sure. These electrocardiograms are non-specific and I cannot account for the changes. They really do not contribute much to our diagnosis.

X-Rays

Mr. Vancil: We have three sets of x-rays for presentation today. The first two were taken shortly after admission, the second a week later and the third a week after that. The first chest film shows no gross abnormalities of bony configuration; the left chest appears generally clear, and the right chest shows the diffuse density in the lower lobe. The lateral view clarifies the density as there is a meniscus extending posteriorly suggesting fluid in the middle lobe. It is set off both inferiorly and superiorly by fluid in its fissures. The next film was probably made after thoracentesis, and it shows definite clearing of fluid but residual density in the right lower base, fluid in the interlobar fissure. There is in this film a density that we really cannot explain. It looks somewhat suggestive of a mass; it is not consistent with the right border of the heart. Again, the costophrenic angle on this side is dull. Incidentally, all of the abdominal views showed a generalized density which is compatible with ascites. The next films (*Figure 2 and 3*) are higher penetration films; I imagine to further delineate this possible mass. The patient is, however, somewhat rotated. Again there is a re-accumulation of fluid in the right side and the persistence of fluid in the interlobar fissures. There is a density that has a scalloped border just to the right of the border of the heart. It has a rather peculiar configuration; we interpret this as being compatible with the sternum. In both of the films, the superior anterior mediastinum shows a somewhat widened ap-

pearance and we feel it is consistent with the superior vena cava.

Dr. Delp: I think there was a liver scan in these films; I do not know whether the seniors cited that they did not want to interpret it or not, but it really did not contribute and I assume that is why they left it out. We are going to call on Mr. Wertzberger to begin our discussion. Subsequently I want to call on Dr. Berry, Dr. Allen, and others.

Discussion

Mr. Wertzberger: The case for presentation today is that of a 46-year-old woman, who during a four and one-half month course, progressively developed edema of the feet, legs, and thighs, ascites and hydrothorax, and then dyspnea on exertion in the absence of orthopnea. She subsequently went on to develop edema of the right arm, and finally facial edema and venous distension of the jugular vein with generalized anasarca. Terminally, her blood pressure steadily decreased, repeated thoracenteses were done, and she became cyanotic. The blood pressure became unobtainable, and death finally ensued.

The differential diagnosis will be centered primarily around the lesion or lesions that should produce intractable obstruction, either passive or active, of first, the blood returning from the inferior part of the body, and finally, interfering with the venous return from the superior aspects of the body. We feel that terminally, at least, she presented a picture of almost complete obstruction to the venous return to the heart. In neurology we were taught to localize the central lesion from its peripheral manifestations. After that, the nature of the lesion is diagnosed from a knowledge of the natural history and course of the various possible lesions. In the case for presentation today, we feel that we were afforded the opportunity of following the natural history of a disease confined to a reasonably small anatomical area from its peripheral manifestations.

Generalized cardiac diseases characterized by painless, progressive decompensation with elevated venous pressure in the absence of obvious etiology must first be considered. Primary myocardiopathies such as idiopathic myocarditis, fibroelastosis, and amyloidosis of the heart are well known for their ability to produce intractable heart failure in a previously well individual. These diseases of the heart are almost always generalized, producing severe left ventricular failure and pulmonary edema. The remarkable lack of rales in the lungs persisted up until the time of death and militates against these generalized diseases of the heart. Lesions residing outside the mediastinum and its contained organs could conceivably produce many of the signs and symptoms of a primary central lesion.

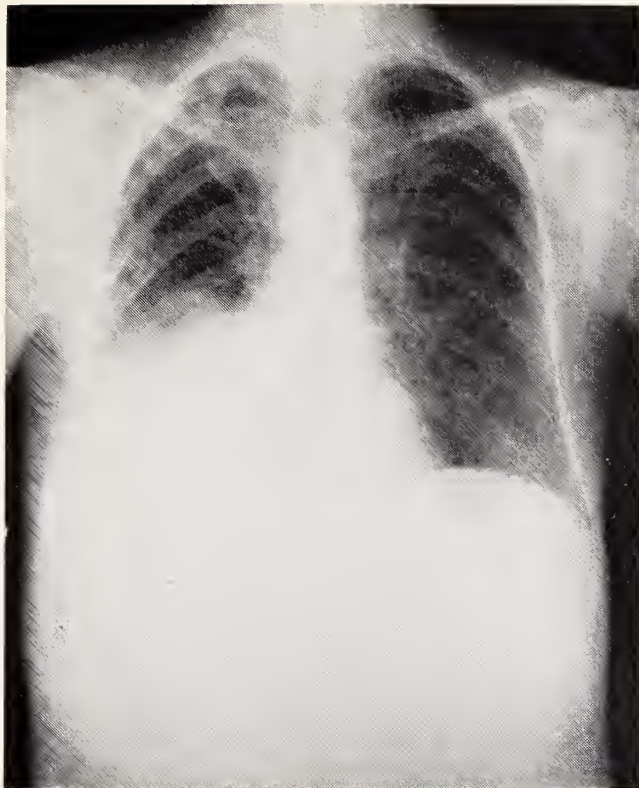


Figure 2. Posterior-anterior film of chest made on September 15, 1962.



Figure 3. Lateral chest film made on September 15, 1962.

Primary carcinoma of the liver is fully capable of producing hepatomegaly, ascites and compression of the inferior vena cava. Yet, like renal cell carcinoma it has a propensity for venous invasion and direct extension along the course of the great veins to finally involve the heart. There are reported cases of progressive right heart failure secondary to massive tumor extension to the right atrium. Further, thrombophlebitis is not uncommon in association with malignancies of the liver, and her history of right arm swelling and tenderness suggests the phlebitis. The elevated alkaline phosphatase helps point toward a space-occupying lesion in the liver and moderate to mild bilirubinemia is the rule.

We exclude such diseases as abdominal carcinomatosis, primary hepatoma, and renal cell carcinoma because of the absence of localizing pain, confirmatory laboratory tests, and because she remained undiagnosed even after abdominal exploration and liver biopsy. The Meigs' syndrome and the Budd-Chiari syndrome may be briefly considered because of the edema and ascites that may be produced. We exclude both of these syndromes because our patient manifested the signs and symptoms of generalized venous obstruction, and finally died a hypoxic death. Since this woman stopped menstruating at the onset of her illness a primary carcinoma of the ovary must be given brief consideration. This malignancy tends to occur most frequently in the para-menopausal age

group. Some of the tumors produce massive ascites, hypoproteinemia and generalized edema. It can be safely ruled out on the absence of operative or physical findings as well as the atypical course of this woman's illness.

There is an old adage that states, "When you see hoof prints in the sand you gotta think of a horse and not a giraffe." Unfortunately we seem to be surrounded by giraffes, water buffalos and the like, and must give them more than a cursory consideration. Inferior vena caval occlusion due to primary leiomyosarcoma has been well documented. Even though this is a rare entity it can adequately account for our patient's clinical picture. These tumors are usually restricted to the vein lumen and are slow to metastasize. Most of the reported cases have been in middle aged women. The course of the disease runs from two to twenty months and depends on the level, extent and rapidity of obstruction. Initial findings are pitting edema of the legs, progressive swelling of the abdomen, edema of the abdominal wall and trunk, dyspnea with pleural effusion and the Budd-Chiari syndrome of hepatosplenomegaly as the hepatic veins become obstructed. In some cases, tumor extension into the right atrium has occurred. Liver function studies are usually normal but an elevated alkaline phosphatase and bilirubin may be present. An antemortem diagnosis is usually not made. Up until February 1, 1963, there were 30

well documented examples of this tumor. We hope this will not be the thirty-first.

Another group of lesions which can compromise the venous return to the heart are lesions which can cause enlargement of the mediastinal lymph nodes or which can occur as a separate mediastinal mass causing external compression of the great vein. Teratoderms, thymomas, and neurofibromas are ruled out because of lack of x-ray findings, absence of pain, and the initial involvement of the inferior vena cava. Granulomatous diseases can also cause enlarged nodes. Tuberculosis and histoplasmosis are ruled out because of the negative skin tests. Sarcoidosis was ruled out on the basis of atypical course or evidence of involvement of the lungs, skin, eyes or peripheral nodes by this process.

Numerous abdominal tumors can metastasize to these nodes but these are ruled out because of lack of evidence of the primary tumor. The most reasonable diagnosis from among these possibilities is the one of lymphoma. The typical picture is one of fever, chills, weight loss, and splenomegaly. We rule these out because of the lack of positive x-ray findings. A lesion large enough to produce the massive constriction or obstruction would probably be seen on x-ray.

Primary mechanical diseases of the heart must be seriously considered because our patient presents many of the classical findings of right heart failure. Pure tricuspid insufficiency is a rare disease. The few cases reported have almost always followed a history of rheumatic fever. The clinical manifestations of this disease predominately occur in females and manifest between the ages of 25 and 50 years. In the absence of a positive history of acute rheumatic fever and its rarity, we feel this diagnosis is not tenable. Primary neoplasms of the heart are rare and have been observed by (Strauss and Merwood) in only eight cases of 480,000 autopsies. Myxoma is the most common lesion and accounts for 50 per cent of the cases. Of the myxomas, Steinberg reviewed 204 cases, and found that 25 occurred in the right atrium. Right-sided, intracardiac tumors have increased incidence in women and usually occur in the ages from 30 to 60 years. The symptoms and signs of right-sided heart failure usually dominate the clinical picture. Pulsatile neck veins and dusky cyanosis are often present. Two of seven cases of right atrial myxoma in one series did not have significant murmurs. The clinical course is often fulminating and they are rarely diagnosed antemortem. Up until February, 1963, there were two cases of right atrial myxoma associated with polycythemia. This association tends to make this an attractive diagnosis. However, it must be noticed that a prominent murmur is usually present. Other symptoms such as history of syncope, chest pain, and hemoptysis were not

found in our patient and tend to rule against this disease. We were impressed in our reading with the subtle and variable clinical manifestations of this tumor. We do not feel that we can rule out this tumor at this time.

Chronic constrictive pericarditis is a more common entity than many of the conditions considered previously. The disease classically presents insidiously with progressively dependent edema, ascites, hepatosplenomegaly, increased venous pressure, exertional dyspnea, pleural effusions, and, as a late manifestation, generalized anasarca. A friction rub is uncommon. Outstanding in the clinical course is the absence of pulmonary edema and orthopnea. The disease usually runs a protracted course but a more rapid progressive one is not unknown. In one series, 25 to 50 per cent proved at autopsy were of unknown etiology. A history of previous acute pericarditis is rarely found. Tuberculosis was thought to be the most common specific cause when etiology could be established. Paul Wood is a recent issue of the *American Journal of Cardiology* reviewed 40 cases from his own experience. He was quite impressed with the paucity of symptoms early in the disease in contrast to the severe edema. He noted that patients with right-sided heart failure from other causes usually manifested profound symptoms of fatigue, malaise and dyspnea early in the disease. The heart may be of normal size, small, or moderately enlarged according to the sickness of the pericardium. Fluoroscopically the heart is seen to have diminished pulsations. Calcification is seen in x-ray in half of the cases, and electrocardiogram findings most frequently are of decreased voltage and atrial fibrillation. In conclusion, the majority of our group feels that this patient had chronic constrictive pericarditis of obscure etiology manifesting, in the last five months of life, signs and symptoms of right heart failure refractory to treatment and culminating in hypoxic death.

Dr. Delp: Thank you, Mr. Wertzberger. You and your group did very well indeed. It is unusual for someone to admit that this is only a majority report, so let us find out about the minority section. Mr. Kemper?

Mr. Kemper: I want to correct that; I think all of us felt that.

Dr. Delp: Your first and second diagnosis.

Mr. Kemper: Constrictive pericarditis possibly due to coccidioidomycosis and then leiomyosarcoma of the inferior vena cava.

Miss Kenoyer: Constrictive pericarditis first and lymphosarcoma.

Mr. Vancil: I vote for constrictive pericarditis and as a second diagnosis the thirty-first case of a primary leiomyosarcoma of the inferior vena cava.

Dr. Delp: Mr. Toalson?

Mr. Toalson: Pericarditis, sir, and I think myxoma of the right atrium.

Mr. Wertzberger: Constrictive pericarditis and lymphoma.

Dr. Delp: Let us talk about these changes in blood count. Mr. Kemper?

Mr. Kemper: Well, we had a difficult time deciding whether she was anemic or not. I believe she was because of the serum iron and total iron binding capacity. The reason for the elevation of hemoglobin and hematocrit is probably the hypoxia due to her anasarca, and this is a relative, secondary increase.

Miss Kenoyer: I would hate to try and explain the findings on the basis of chronic, constrictive pericarditis. The only way I could do it would be to take the second diagnosis of lymphosarcoma. There are several ways that you might explain the changes, and I think the best, considering everything, would be an infiltrating process of the bone marrow.

Mr. Rouse: We do not know what kind of medication she had.

Dr. Delp: What kind of medication would you like to know about?

Mr. Rouse: In this patient, we were thinking about a tumor of the liver or lymphoma, and they might treat the cancer with an agent that causes bone marrow depression.

Dr. Delp: I think she might have had some nitrogen mustard. Do you think that might account for some of these changes?

Mr. Rouse: No.

Dr. Delp: In that case, how do you account for the platelet count?

Mr. Vancil: I do not know unless she was given some packed cells and platelets in desperation.

Mr. Kemper: I have not the faintest idea.

Dr. Delp: Do you think these findings really could be associated with the administration of nitrogen mustard? Let us go back and talk about the hemoglobin. When she came in here she had a hemoglobin of 16.7 Gms.—101 per cent hemoglobin. You talked about her being anemic.

Mr. Toalson: She did have both a lowered total serum iron and iron binding capacity. The lowered serum iron would suggest increased hematopoiesis with incorporation of the iron into the hemoglobin molecule of the young red blood cell.

Mr. Palmer: I feel that initially she was not polycythemic. The 15.6 Gm. per cent of hemoglobin was probably due to a sequestration of fluid in her tissues. This is rarely polycythemia. She had a mean corpuscular hemoglobin concentration of 27 which is decreased from the normal in this laboratory. She appears to have had hypochromia. I think she had a little hypochromic anemia.

Dr. Delp: Mr. Wertzberger, you rather promptly

disposed of Budd-Chiari syndrome. Would you go through that quickly for me again?

Mr. Wertzberger: I disposed of Budd-Chiari syndrome because there were findings of inferior vena cava involvement at termination.

Mr. Rouse: I think this was the primary thing. Budd-Chiari usually progresses primarily with hepatomegaly, a rapidly distending and painful liver along with splenomegaly and then ascites. I think the peripheral dependent edema would go somewhat against this. Budd-Chiari will affect the liver early in the disease.

Mr. Vancil: I would like to go back to the previous question about the hemoglobin for a minute, if I might. I think this patient had a secondary polycythemia, and I think this was due to extramedullary hematopoiesis as the result of bone marrow hypoxia. I think this accounts for her low serum iron. In regard to the second question, the main reason I ruled out Budd-Chiari syndrome is because, in practically every case I read about, the Budd-Chiari picture was associated with pain which was usually severe.

Dr. Delp: Dr. Berry, would you give us your impressions?

Dr. Maxwell G. Berry (internist): There are other evidences of a horse being around besides tracks. I will get right down to business, Dr. Delp. I hate to go against the majority opinion from the students; but there is a possibility that entered my mind in looking at the protocol. I think that we have not excluded the possibility of this patient's having a renal cell carcinoma with extension into the veins with the elevated hemoglobin, with the remainder of the symptoms that she had. I have a lot of reasons for thinking that she did not have constrictive pericarditis which I suppose she probably did. One of the reasons is that this woman only lived four and a half months after she began having symptoms. The second is that she did not have calcification. The third is that she did not have a positive electrocardiogram. And the fourth is that she had too big a spleen. Now if you get one or two things, you can swallow them but when you get to multiplying three per cent and five per cent and you have four possibilities that have small percentages then you have gotten down to an infinitesimal amount on which I do not like the odds. There are other possibilities, but I will sit down with this one diagnosis, and with my neck way out.

Dr. Delp: Dr. Allen?

Dr. Max S. Allen (internist): It is extremely difficult to follow Mr. Wertzberger and Dr. Berry. This was a frustrating patient for us clinically; I think virtually all the things that have been mentioned as diagnostic possibilities did come up for consideration. We were reassured at one point along

the way with regard to intra-atrial mass, either tumor or thrombus, by negative catheterization through the left cephalic vein. Simultaneous pressure readings would also seem to reassure us about the possibility of constrictive pericarditis if we still were in doubt about this. The remaining possibilities are those which have been mentioned, certainly lymphoma or tumor of this general type with occlusion of the hepatic vein and cava were highest in our order of preference. She did receive nitrogen mustard; I do feel that the hematologic manifestations were largely a result of this medication. She was also anti-coagulated and she was digitalized. None of these things had a favorable effect on this patient's course. I think that is about all I should say.

Dr. Delp: Dr. Wilson, do you have any way to account for this platelet count of 887,000?

Dr. Sloan J. Wilson (hematologist): I should answer that very simply by saying "no." I think one does occasionally see some very peculiar types of thrombotic syndromes in which there may be variations in platelets. This has been attributed to those patients in which there are sudden and increased thromboses; then there is a lag period; and then a response of the bone marrow. This does not explain this at all. I was one of the group that looked at this individual for 34 days and, as Dr. Allen once said, there is no good diagnosis in this case, at least as one stands by the bedside. I think there are a few things that we do have to consider that cause some very peculiar clinical manifestations. For instance, malignancies and all the various types of thrombotic syndromes that can occur. Historically, for example, the king of England had had thrombophlebitis of his leg, and later died of a carcinoma of the lung. The most common tumors are those of the pancreas, but these are not limited to carcinomas of the pancreas. It may be almost any type of carcinoma. I suppose one should mention thrombotic thrombocytopenic purpura, but this sounds a bit stupid if there is no thrombocytopenia. I do not think we can completely rule out some of the allied types of phenomena in which there are these bizarre types of thrombotic episodes. One that used to creep into the older literature that we seem to have forgotten, and yet it is a very definite syndrome as far as I am concerned, and that is a migrating type, thrombophlebitis migrans. In the older literature, many of the patients had positive serologies which should give us a lead at the present time that these were not due to syphilis but due to some of these collagen disorders or some of these allied conditions.

Pathology Report

Dr. Frank A. Mantz, Jr. (pathologist): External examination confirmed the findings already related

in the clinical record. The major pathologic alterations were confined to the liver and the venous system. The liver was quite small, firm and weighed only 800 grams. Superficially it presented an appearance of both acute and chronic passive congestion. A most dramatic alteration was discovered in the left hepatic vein which was partially occluded by a remote, organized, smoothly eburnated thrombus. The right main hepatic vein was patent but was greatly narrowed by thickening and fibrosis of its wall (*Figure 4*). Microscopic studies showed the intrahepatic segments of the hepatic veins to be the site of both remote and recent thrombosis. The parenchyma showed evidence of severe chronic passive congestion with central portal reversal, centrilobular necrosis, lobular collapse, cholestasis, fibrosis and evidence of focal early regeneration. It is not surprising that a number of remote and recent pulmonary emboli with infarcts were demonstrated. The liver capsule showed rather remarkable fibrous papillations indicative of



Figure 4. Liver. The left hepatic vein is partially occluded by eburnated thrombus. The right hepatic vein is thickened, fibrous and markedly narrowed. There is extreme chronic passive congestion of hepatic parenchyma. A remote mural thrombus is noted in the inferior vena cava.

ascites. The latter was most certainly present, the abdomen containing 1,700 ml. of clear serous fluid.

Further evidence of portal hypertension was found in the rather remarkable dilatation of the portal, splenic and mesenteric veins. The spleen was the site of chronic congestive splenomegaly, and the retroperitoneal and azygos venous systems were dilated. In keeping with this, varicose dilatation in the esophageal veins was discovered and there was rather severe bilateral hydrothorax with 500 ml. of clear fluid present in the left chest and 2,000 ml. of similar fluid present on the right side.

These findings are rather typical of the so-called Budd-Chiari syndrome, a high-sounding phrase which offers only a semantic escape from our ignorance. Less than 200 cases of this syndrome can be found in the literature. The disorder was ascribed by Chiari in 1899 to an obliterative hepatic endophlebitis. Since that time numerous other cases have been found to be secondary to other diseases but there remains a large group in which the basic cause is not known.

In this particular instance, there is evidence that more widespread venous disease existed. The inferior vena cava was found to be the site of rather extensive mural thrombosis. The superior vena cava was similarly involved with old and rather recent thrombus extending into the innominate vein (*Figure 5*).

The nature of the process that produced this change is obscure. It is my opinion, however, that a widespread degenerative disorder involved the venous system. Histologic study of the walls of a number of major veins disclosed fibrous replacement frequently with ablation of the muscularis; glassy edema with vascularization and little or no inflammation; increase in interstitial ground substance; fragmentation of elastica; and swelling and smudging of the collagen which in areas approached fibrinoid necrosis (*Figure 6*).

These changes are reminiscent of the type of visceral thrombophlebitis migrans described by Gerber and Mendlowitz in 1949. Of the six cases described by these authors almost all showed involvement of the hepatic venous system, with the development of the Budd-Chiari syndrome. No cause for this degenerative phenomenon is recognized at the present time although one's thoughts naturally turn toward a systemic disorder, particularly the dyscollagenoses. In this regard, I would point out that a small artery in the spleen does indeed suggest the onion-skin type of fibrinoid necrosis common to lupus erythematosus (*Figure 7*), although no claim can be made that this disorder did, in fact, exist.

Further evidence supporting a systemic disorder was found in the bone marrow which was the site of rather extensive myeloid hyperplasia with distinct left shift. A peculiar hyperplasia of megakaryocytes

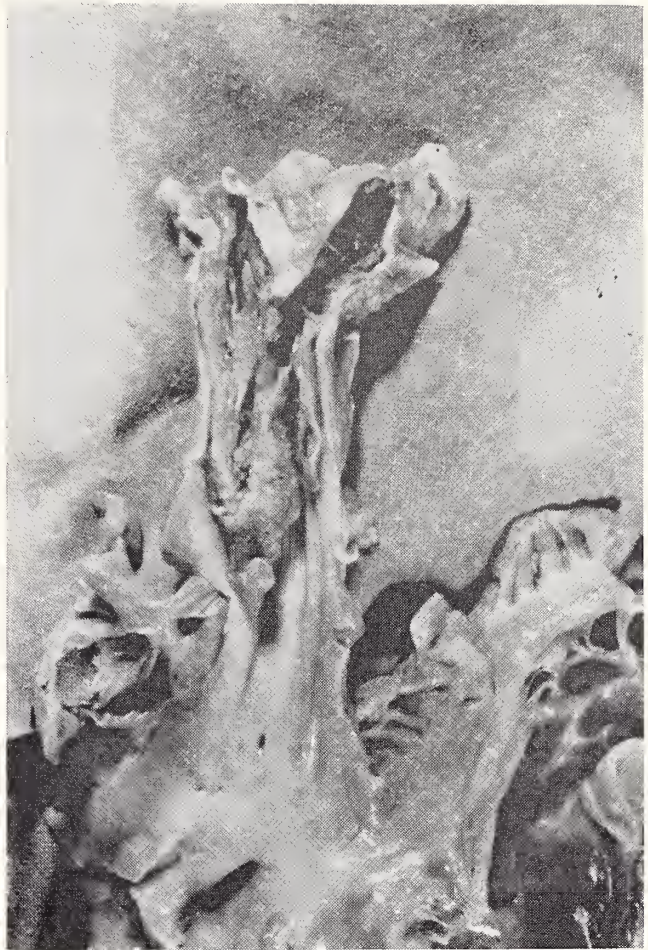


Figure 5. Superior Vena Cava and Innominate Vein. Nearly complete occlusion by old and recent thrombi.

likewise was noted for which an exact etiology is elusive. It is considered likely that these represent a reactive change.

I feel myself to be on fairly safe ground in stating that death was related to massive hepatic necrosis. Evidence of amino aciduria was discovered within the kidneys and there was rather extensive cerebral edema with ring hemorrhages and the proliferation of large pale astrocytes quite typical of so-called cholemic encephalopathy. The many additional important, but more incidental, findings are too numerous to discuss at this time.

To summarize, it is my opinion that this patient suffered a degenerative disorder of the major visceral veins (visceral thrombophlebitis migrans) possibly a manifestation of some vague systemic disease. Occlusive phenomena within the hepatic venous system resulted in the Budd-Chiari syndrome with massive hepatic necrosis and death on the basis of hepatic failure.

Primary Diagnoses

Degenerative disorder of venae cava, innominate veins, hepatic veins and splenic vein, manifest by



Figure 6. Inferior Vena Cava—Edema and fibrous replacement of wall of vein.

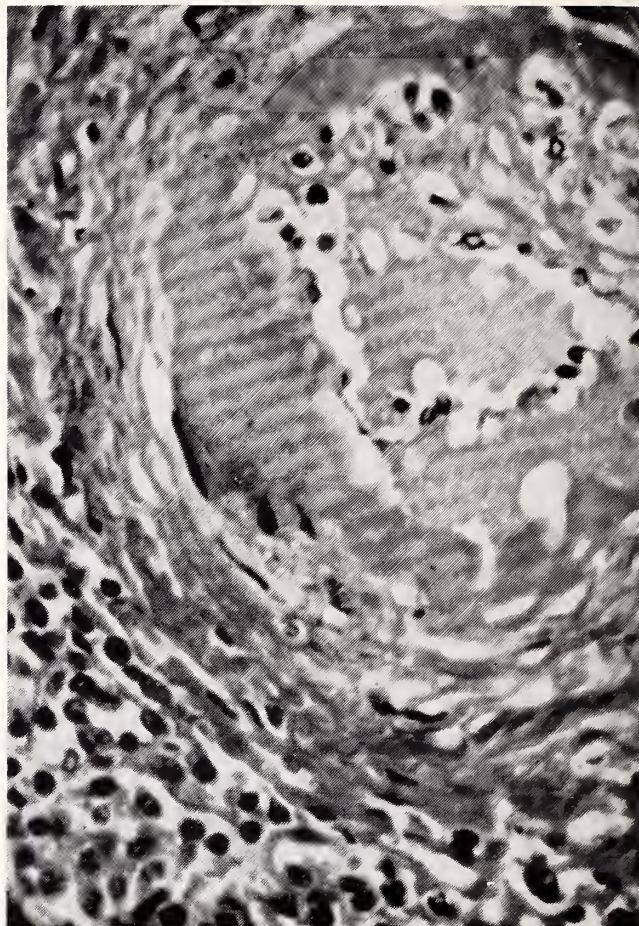


Figure 7. Onion skin proliferation and edema peniciliary artery of spleen.

edema vascularization, fibrous replacement and mural thickening.

Remote and recent focal thromboses with organization of major hepatic veins; their intrahepatic radicals; and of central veins of hepatic lobules characteristic of Budd-Chiari syndrome.

Acute and chronic passive congestion of liver with necrosis, advanced; cholestasis, fibrosis, and regeneration, slight.

Ascites.

Remote mural thrombus of inferior vena cava.

Old and recent thrombosis of superior vena cava and innominate veins.

Cardiac dilatation, moderate.

Hydrothorax, bilateral.

Reference

Gerber, I. E. and Mendlowitz, M.: Visceral thrombophlebitis migrans. *Ann. Int. Med.* 30:560, 1949.

In 1939, the purchase of drugs took 18.3 cents of each dollar spent on medical care. Now they take 15.6 cents, according to the U. S. Department of Commerce.

The President's Message

DEAR DOCTOR:

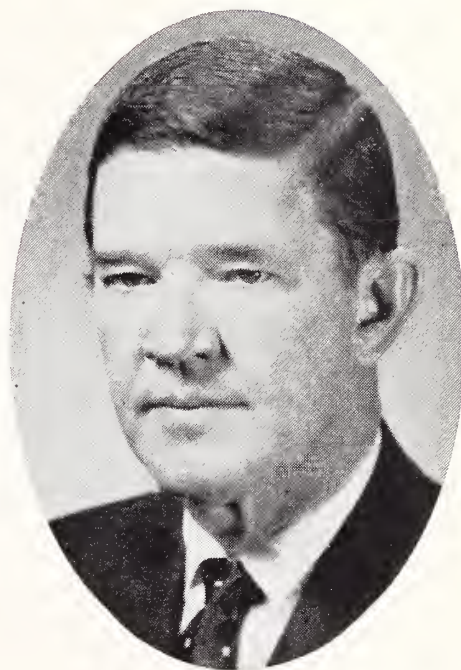
It is wonderful to live in Kansas in the Fall and enjoy the beautiful weather, fall colors, football games and upland game hunting. It is equally wonderful to practice medicine in Kansas, with its fine atmosphere of good doctor-patient relationships, an excellent medical school offering good continuing education, and the good feeling of fellowship among medical colleagues.

In fact, it is nice to just sit and think about one's blessings for a few minutes and ignore Medicare.

Sincerely,

George Burkett, Jr., M.D.

President





Editorial COMMENT

Biographical data relating to the members of this Society is now processed on IBM tape through the contribution of much time and considerable expense by Kansas Blue Shield. The Kansas Medical Society expresses its gratitude to Blue Shield in the knowledge that without their effort this could not have been accomplished.

This will continue to be useful in many future studies of physician distribution and a wide variety of projects. A hasty tabulation gives us some immediate information that might be of interest. These were counted manually and if not exact they are at least approximately accurate.

On October 1, there were 1,854 members in the Kansas Medical Society affiliated through 59 county or district medical societies in this state. There are 74 female physician members.

<i>Listing by Age</i>	<i>Number</i>	<i>Listing by Age</i>	<i>Number</i>
29	1	51	53
30	11	52	52
31	17	53	46
32	22	54	41
33	36	55	35
34	54	56	35
35	43	57	31
36	34	58	37
37	48	59	41
38	59	60	34
39	56	61	25
40	58	62	31
41	84	63	27
42	60	64	17
43	67	65	16
44	66	66	23
45	73	67	18
46	47	68	20
47	71	69	11
48	48	70	14
49	56	71	15
50	46	72	13

Data on K.M.S. Members

73	9	84	5
74	9	85	5
75	12	86	4
76	8	87	8
77	16	88	7
78	14	89	9
79	10	90	2
80	9	93	2
81	10	94	1
82	12	97	1
83	9		

The numerical center of the age distribution falls into the middle of the 48-year old group. Therefore, the average physician age is 48.6 years. Fifteen years ago the average age was 54 years.

<i>Place of Birth</i>	<i>Number</i>	<i>Place of Birth</i>	<i>Number</i>
Kansas	947	Wisconsin	21
Colorado	22	Indiana	20
Missouri	182	Arkansas	19
Oklahoma	75	Minnesota	18
Illinois	65	Massachusetts	15
Iowa	51	Michigan	15
Nebraska	49	Kentucky	14
Ohio	35	South Dakota	13
Pennsylvania	33	California	12
Texas	32	North Dakota	11
New York	28	New Jersey	10

As stated earlier, this tabulation is subject to correction but it appears every state except Alaska, Delaware, Maine and Nevada contributed toward the membership of this Society. Those not listed here have fewer than ten members.

In addition, there are 74 born in 25 foreign countries. The largest number of these come from the following:

Germany	13	England	4
China	8	France	3
Canada	5		

<i>Medical School</i>	<i>Number</i>	<i>Medical School</i>	<i>Number</i>
Kansas	931	Iowa	23
Northwestern ...	78	Kansas City	21
Oklahoma	59	Colorado	17
Washington, St. Louis	57	Louisville	17
Creighton	54	Tulane	16
Nebraska	50	Baylor	15
St. Louis	45	Harvard	15
Rush	28	Michigan	14
Illinois	23	Pennsylvania	14

There are two medical schools from which apparently no graduates belong to this Society.

In addition, 59 physicians graduated from 38 foreign medical schools. The largest numbers of these come from:

Germany	11	Canada	6
Mexico	8	China	5

<i>Type of Practice</i>	<i>Number</i>
General Practice	754
General Surgery	227
Internal Medicine	186
Psychiatry	88
Obstetrics & Gynecology	85
Pediatrics	62
Ophthalmology	54
Anesthesiology	53
Radiology	51
Orthopedic Surgery	44
Pathology	33
Urology	33
Forensic Pathology	24
Otolaryngology	24
Dermatology	17
Thoracic Surgery	16
Public Health	12
Allergy	11
Cardiovascular Disease	9
Child Psychiatry	9
Neurological Surgery	9
Plastic Surgery	9
Neuropsychiatry	7
Administrative Medicine	7
Neurology	5
Physical Medicine	5
General Preventive Medicine	4
Colon and Rectal Surgery	3
Gastroenterology	3
Therapeutic Radiology	3
Student Health	3
Pulmonary Diseases	2
Aviation Medicine	1
Pediatric Allergy	1
Other	2

The University of Kansas School of Medicine and this Society will cooperate in a detailed study of this and other material for future reports. Among them will be data on where all graduates of K. U. are

located and what they are doing. In addition studies are planned on physicians in this state by area, type of practice and age to discover facts, about which there are today only opinions, on distribution of physicians. This is the beginning. Much more will follow.

MEDICAL MANUSCRIPT EDITING SERVICE

For more than ten years, the American Medical Writers' Association has provided a Medical Manuscript Editing Service. This Service has been rendered by a Life Member of the A.M.W.A., Leslie L. Lewis, Editorial Director of a Mid-West publishing company. Headquarters of the Service are at the Ravenswood Hospital in Chicago. The Medical Manuscript Editing Service is available to both members and non-members of the Association. The charge to members is \$5 for the first 1,000 words plus \$5 for each additional thousand or fraction thereof. The charge to non-members is \$7.50 for the first 1,000 words plus \$7.50 for each additional thousand or fraction. Only manuscripts that are intended for medical journals or kindred publications, from which the authors receive no fees, and not exceeding 5,000 words in length will be accepted for review and editing. This is not a commercial service and does not concern itself with the selling of manuscripts, ghostwriting, or the compiling of bibliographies.

The Service is intended for medical writers who would like to have assistance when confronted by the perplexities of writing problems. The principal aim of the Editor of the Service is to help authors say what they want to say and to say it with precision, economy, and grace. On the manuscript itself, the Editor corrects punctuation; capitalization; spelling; misused words, including medical terms; and arrangement of bibliography. In addition, the Editor offers a line-by-line criticism of the manuscript covering such points as title, organization, tables and illustrations, sub-heads and summary, as well as grammar, syntax and usage. Many users of the Service are regular contributors to the medical literature and evidence indicates that all who use the Service have been satisfied with the work it does for them.

Manuscripts must be sent by first-class mail, type-written, in English, double or triple spaced, with wide margins at top, bottom, and both sides, written on one side only, and accompanied by return first-class postage. It is preferred that manuscripts be mailed flat; the number of words in the manuscript must be stated in the upper right hand corner of the first page; and the fee for the Service, including return postage enclosed. The author should be sure to retain a copy of his paper. All manuscripts should be sent to the American Medical Writers' Association, Medical Manuscript Editing Service, Ravenswood Hospital, Chicago, Illinois 60640.

KaMPAC*

**Kansas Medical Political Action Committee*

DEAR DOCTOR:

I have just finished perusing the April, 1965, issue of the magazine *Agenda*. This is published by the Industrial Union Department, AFL-CIO, and this particular issue is concerned with general health in the United States. What they are advocating is frightening and you should be aware of the problem.

Dr. Milton Roemer is Professor of Public Health at UCLA. He states that to help health care in this country, health insurance should be extended to cover the entire population, all health services, anywhere, through public-operated programs. He goes on to say the medical and dental fees should be standardized.

Dr. Caldwell B. Esselstyn recently was chairman of the Physicians' Committee for Health Care of the Aged Through Social Security. He states that the best way to obtain good health care is through a national health program.

This magazine goes to many members of the AFL-CIO and explains the union's goals. If you remember that 60 per cent of the present Congress was elected with union help, and think how the present Congress has passed labor-oriented legislation, you can see that our work is cut out for us. You can best help to defeat this kind of legislation by joining and working with KaMPAC.

Very truly yours,

John W. Warren, Jr., M.D.

Chairman, KaMPAC



Personalities—IN KANSAS MEDICINE

Participating in the annual meeting of the Kansas Tuberculosis and Health Association recently held in Wichita were **In Sung Kwak**, Norton; **Floyd C. Beelman**, Topeka; **Leon Bauman** and **Alexander Laham**, both of Wichita.

In October, **Dr. and Mrs. Paul M. Powell**, Topeka, began a two-month trip around the world as members of a tour sponsored by the International College of Surgeons. The purpose of the tour, which will visit clinics in the Near and Far East, is to exchange scientific information and cultivate good will between countries.

The formal opening of the Kansas Health Museum in Halstead was held in October. Among those appearing on the program at the dedication ceremony were **Jack Walker**, Kansas City; **H. P. Jubelt**, Manhattan; and **Ralph R. Melton**, Marion.

Howard V. Bair, Parsons, attended the annual American Psychiatric Association Mental Health Institute which was held in San Francisco during the last week of September.

Robert D. Boles, Dodge City, attended a three-week postdoctoral course in pediatrics at Harvard University in September. The course was offered at the Children's Hospital Medical Center under the sponsorship of the Harvard Medical School.

The Kansas Division of the American Cancer Society elected **D. Cramer Reed**, Wichita, president of the organization at their annual meeting held in

Topeka in October. **Wilbur G. Cauble**, Wichita, was elected vice president, and new members of the board of trustees include **Arthur L. Ashmore**, Wichita; **Thomas D. Ewing**, Larned; and **William E. Larsen**, Kansas City. During the meeting an award was presented to **Dwight Lawson**, Topeka, for ten years of service to the Cancer Society.

Albert N. Lemoine, Jr., Kansas City, and **Rodger S. Kirkegaard**, Topeka, discussed the eye bank program and showed films on a cornea transplant at the September meeting of the Parsons chapter of the Kansas Odd Fellows eye bank.

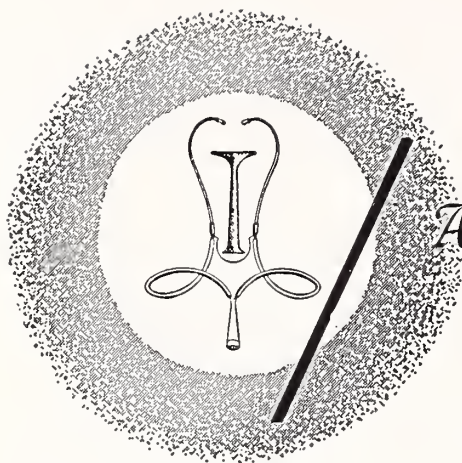
George L. Thorpe and **Austin J. Adams**, Wichita, were recently reappointed to one-year terms on the Wichita-Sedgwick County Board of Health.

A Businessmen's Seminar, sponsored by **Murray C. Eddy**, Hays; the Ellis County Association for Mental Health, and the Hays Chamber of Commerce was held in Hays in October.

A. M. Cherner, Hays, was re-elected president of the Ellis County Unit of the American Cancer Society at their annual meeting in September. **William M. Kane**, Hays, was appointed to serve as chairman of the medical advisory committee.

In October, **Donald G. Dirks** moved from Satanta to Colorado Springs where he will continue his practice.

(Continued on page 533)



Announcements

Professional meetings, conferences, and postgraduate courses of national importance are listed for the Doctor's CALENDAR. Notice of the session is posted in advance to allow the physician time to make preparations.

MARK YOUR CALENDAR!

Council meetings are scheduled in the following districts during November and December. Except for the meeting in District 13, which begins in the afternoon, these are evening meetings beginning with dinner at the time indicated. Further information will be forthcoming.

<i>District</i>	<i>Date, Time and Place</i>
6	November 15—6:30 p.m. Florentine Room, Hotel Jayhawk, Topeka
2 & 3	November 16—7:00 p.m. Town House, Kansas City, Kansas
5	November 17—6:30 p.m. Country Club, Manhattan
8	November 18—6:30 p.m. Winfield Country Club, Winfield
13	December 9—3:00 p.m. (meeting followed by dinner) Conference Room, Hadley Hospital, Hays

CHRONIC DISEASES SEMINARS

Five monthly seminars on Management of Patients with Chronic Diseases, sponsored by Kansas City's Menorah Medical Center and Danciger Institute for the Health Sciences began this month and will run consecutively through next March. The two-day sessions, which are designed as continuing education courses for practicing physicians in Missouri, Kansas, Nebraska, Iowa, Oklahoma and Arkansas, are co-sponsored by the Greater Kansas City Academy of General Practice. Each seminar has been approved for ten hours of credit by the AAGP Commission on Education. The seminars will be held at Hammack Auditorium in Menorah Medical Center, 4949 Rockhill Road, Kansas City, Missouri.

Following is the program for the four remaining seminars. The first session was held November 3 and 4 and, therefore, is not listed.

Dec. 8-9 (All day Wednesday and Thursday)

Maintenance and Restoration in the Aging Patient (Wednesday)

Opportunities and Limitations in the Treatment of Alcoholism (Thursday)

Jan. 5-6 (Wednesday Evening, all day Thursday)
Renal Diseases

Feb. 2-3 (Wednesday, Thursday as above)

Arthritis and Skeletal Injuries

Mar. 2-3 (Wednesday, Thursday as above)
Metabolic Diseases

Registration is free, but participants will be expected to pay for meals. For further information contact William R. DeLay, The American Academy of General Practice, Volker Boulevard at Brookside, Kansas City, Missouri 64112.

NOVEMBER

Nov. 16 *Something About Blood Pressure*, Holiday Inn, Kearney, Nebraska. Write R. C. Rosenlof, M.D., Platte Valley Medical Group, Kearney, Nebraska 68847, for information and program.

Nov. 15-19 Annual Meeting of the Animal Care Panel, Sheraton Hotel, Philadelphia. Write: Mr. Joseph J. Garvey, Exec. Sec., 4 E. Clinton Street, Joliet, Illinois 60434.

Nov. 22 Symposium on Hodgkin's Disease, co-sponsored by American Cancer Society and National Cancer Institute, New York Hilton Hotel, New York City. Write: Jack W. Wilder, M.D., American Cancer Society, Inc., 219 E. 42 Street, New York City 10017.

Nov. 28 National Conference on the Medical Aspects of Sports sponsored by AMA, Philadelphia.

DECEMBER

Dec. 8-10 Second National Symposium on Coccidi-
(Continued on page 529)

AMA House of Delegates

Report of Special Meeting Held in Chicago, October 3, 1965

Mr. Speaker and Members of the House of Delegates:

Your Reference Committee recognizes the serious nature of the problems before this body and the decisions that must be made on this day—decisions which will affect the future of the practice of medicine for generations to come.

Your Committee heard 125 witnesses speak on 20 separate subjects during seven and one-half hours of testimony. Each witness spoke earnestly, forcefully, temperately, and with personal concern for the welfare of the patient in these United States.

Because of the special nature of the subjects presented to this Special Convention and the interrelationship of the resolutions considered, your Reference Committee, in lieu of dealing with each resolution separately, has considered the intent and the language of all the resolutions. We believe it would be more expedient and practical to present for adoption by this House of Delegates a series of numbered comments, principles and policies which express the position of the American Medical Association on the issues under consideration.

Mr. Speaker, we have endeavored to evaluate, carefully and objectively, the matters before your Committee, and offer the following recommendations:

I. Physician-Patient Relationship. Public Law 89-97 affects the legal, traditional, and ethical concepts of the physician-patient relationship.

Legal counsel for the American Medical Association has stated that an individual physician acting independently and not in concert with others can lawfully refuse to accept any person as a patient who is a beneficiary under the program, or he may elect to treat such persons.

Accepted for information.

In response to a request for an opinion by the Speaker, the Judicial Council, on October 1, 1965, rendered the following opinion:

The *Principles of Medical Ethics* are applicable to physicians when they engage in group action as well as when they act individually. Section 4 calls upon physicians to observe all laws. Accordingly, medical organizations must be mindful of the possible consequences of the actions they propose, engage in or encourage.

Under ordinary circumstances, the individual physician acting independently, is ethically free to select

his patients. (See Section 5 of the Principles.) (a) He may decline to render medical services to persons covered by the "Health Insurance for the Aged Act." (b) He may choose to treat such persons without charge. (c) He may treat patients with the advance understanding that he will look to them exclusively for payment and that he will or will not in any way help them in obtaining reimbursement for the cost of his services or the cost of associated services.

However, under some circumstances, the physician's freedom to select his patients may be circumscribed by overriding ethical considerations. For example:

1. A physician should respond to any request for his assistance in an emergency.

2. Once having undertaken a case, the physician should not neglect the patient, nor should he withdraw from the case without giving notice sufficient to allow the patient to obtain another physician.

3. If a physician decides not to participate in the Medicare program or decides to limit his participation, he should so advise the patient in advance of treatment. This applies to services rendered by the physician as well as hospital services and other benefits provided under the program.

4. As provided in Section 1 of the *Principles of Medical Ethics*, a physician should not refuse to render medical services to any person if as a result such person will be unable to get necessary medical care.

It should be noted also that Section 6 of the Principles provides that "A physician should not dispose of his services under the terms or conditions which tend to interfere with or impair the free and complete exercise of his medical judgment and skill or tend to cause the deterioration of the quality of medical care." If after regulations are promulgated and the Medicare law becomes effective, the individual physician acting independently and not in concert with others, finds it does tend to impair the free and complete exercise of his medical judgment and skill or to cause a deterioration of the quality of medical care, the individual physician would be justified under this Principle in not participating under the law. The physician is ordinarily free to select his patients, subject to such ethical limitations as previously stated in Section 6 of the *Principles of Medical Ethics*, the Bauer Amendment, and in keeping with the nine principles for standards of health care programs adopted A-1965.

Accepted for information.

In accepting the Judicial Council's opinion, as reported by the Reference Committee, the House called attention to the fact that this opinion should be read together with the Bauer Amendment (A-1961) and the nine principles for standards of health care programs adopted A-1965; and that these two items be distributed with the Judicial Council's opinion on the ethics involved in physician participation or nonparticipation in the Health Insurance for the Aged Act.

Bauer Amendment Adopted—A-61

The House of Delegates of the American Medical Association records its opposition of any legislation of the King-Anderson type. Its opposition is based on the facts that such legislation does not meet the needs of the situation; interferes with the doctor-patient relationship; interferes with the rights of doctors employed in hospitals; is inordinately expensive; leads inevitably to further encroachments by government into medical care; results eventually in a deterioration of the type of medical care rendered the public; and is therefore detrimental to the public interest.

The House of Delegates invites attention to the fact that the medical profession is the only group which can render medical care under any system and that the medical profession is best qualified to determine how the best medical care can be delivered.

The House of Delegates believes that the medical profession will see to it that every person receives the best available medical care regardless of his ability to pay; and it further believes that the profession will render that care according to the system it believes is in the public interest; and that it will not be a willing party to implementing any system which we believe to be detrimental to the public welfare.

Nine Principles for Standards of Health Care Programs Adopted—S-65

(1) No person needing health care shall be denied such care because of the inability to pay for it.

(2) It is appropriate that government revenues be used to finance health care when other resources have been found to be inadequate.

(3) Every level of government, municipal, county, state and federal, should assume a responsible share in the financing of such programs.

(4) The health care provided by such programs should be adequate and should be equal to that available to those who can afford to pay.

(5) Maximum use should be made of voluntary prepayment and insurance mechanisms.

(6) Administration of such program should be

the responsibility of the state government. Participating states should be required to meet adequate standards of administration in order to qualify for federal funds.

(7) Eligibility requirements for benefits should be fair, realistic, uncomplicated and practical.

(8) Any such health care programs should provide funds only, and not direct services.

(9) Funds for such programs may come from general tax revenues and not from social security taxes.

Mr. Speaker, your Reference Committee believes that it is desirable for this House to adopt a statement of policy regarding the traditional physician-patient relationship as it relates to Public Law 89-97. Mr. Speaker, we recommend that the following statement be adopted:

The American Medical Association opposes any program of dictation, interference, or coercion, whether direct or indirect, affecting the freedom of choice of the physician to determine for himself the extent and manner of participation or financial arrangement under which he shall provide medical care to patients under Public Law 89-97.

Adopted as amended.

II. Regulations Under Public Law 89-97. It was clear from the testimony received by your Reference Committee that the medical profession has a vital interest in the regulations which are to be promulgated under Public Law 89-97. Hastily drawn, unrealistic regulations could aggravate even further the undesirable effects of this law. Mr. Speaker, we recommend the adoption of the following statement as the present position and policy of the American Medical Association:

(a) The American Medical Association shall continue to meet with representatives of agencies and departments of the Federal Government, to participate in such advisory committees which are created, and to contribute whatever advice and suggestions are deemed advisable and necessary in the formulation and revision of regulations which will help it achieve Medicine's objectives on behalf of the public and the profession.

(b) The American Medical Association urges every physician, regardless of the extent of his involvement, to render whatever advice and assistance he can so that regulatory changes and/or legislative modifications may be suggested or sponsored by the American Medical Association in order that the best interests of the public and the profession may be protected in the provision of medical care.

(c) This House of Delegates expresses confidence in the Board of Trustees of the American Medical Association, its Advisory Committee, and the three-man Consultant Committee on Public Law 89-97 for their

continuing efforts to secure regulations which are in the best interests of good patient care.

Adopted as amended.

Mr. Speaker, your Reference Committee next considered a number of items related to the primary subjects under consideration:

III. Certification by Physicians. Your Reference Committee recommends the adoption of the following statement of policy:

Current practices and customary procedures with respect to certification for hospital admission and care shall be continued under Public Law 89-97. The AMA Advisory Committee and the Association representatives to the technical advisory committees are advised to seek to accomplish this objective.

Adopted.

IV. Blue Shield as Intermediary. Regulations yet to be promulgated will identify the nature of intermediaries under Public Law 89-97. Your Committee offers the following statement:

Blue Shield has, in many areas, demonstrated its ability to provide a competent insurance program. However, the AMA should leave to the state or appropriate local medical society, as the case may be, the expression of any preference for selection of a carrier.

Adopted.

V. Reasonable Fees. Concern was expressed with respect to possible disputes between physicians and carriers relative to reasonable fees under the provisions of Public Law 89-97. We recommend the following statement of policy:

In the event of a dispute between physicians and carriers with respect to reasonable, customary, or usual fees, such disputes shall be resolved with the participation of the appropriate local medical society.

Adopted.

VI. Utilization Review. Differences of opinion as to the purpose of utilization review committees were expressed. However, there was general agreement that with respect to the composition of such committees, the limitation of membership to include only physicians is preferred. Accordingly, we recommend the following statement to the House:

Hospital utilization review committees shall be composed of practicing physicians.

Adopted as amended.

Your Reference Committee understands that the Council on Medical Service will conduct a conference on the subject of utilization review committees

on November 27 in Philadelphia. Recognizing the importance of this subject matter, your Reference Committee recommends that Resolutions No. 8, 18, and 35 be referred to the Council on Medical Service with instructions that the Association's Advisory Committee as well as the Board of Trustees and the House of Delegates be kept informed of developments in this area.

Adopted.

VII. Compensation for Medical Services. Your Reference Committee believes that the physician should be informed fully as to the merits and limitations of billing patients directly for services, or accepting an assignment to enable payment by a federally designated fiscal intermediary, so that the physician can decide for himself in each instance the method of compensation which he prefers. We recommend that the Association take appropriate action to inform physicians regarding the options of payment for services available to them under the law and its regulations.

Adopted as amended.

VIII. Shortage of Hospital Beds. The Oregon Delegation requested a survey of the probable shortage of hospital and related facility accommodations which may occur as a result of the implementation of Public Law 89-97. It also called for the development of a mechanism under which sufficient accommodations for the acutely ill, injured, or those in need of elective procedures will be reserved.

It is your Reference Committee's understanding that this subject is under active consideration by the Council on Medical Service. Your Committee accordingly recommends that this matter be referred to the Council for appropriate action.

Adopted.

IX. Legal Opinion by AMA Counsel. Your Reference Committee was greatly impressed by the candid, forthright presentation by Mr. A. Leslie Hodson, legal counsel for the American Medical Association. We believe that his remarks should be made available to all constituent associations for their information and study. We believe that this will engender a better understanding of the legal limitations which face all medical organizations and the medical profession. Your Reference Committee recommends that the remarks of Mr. Hodson be distributed to the constituent associations.

The House instructed the Board of Trustees to implement this action at the earliest possible date.

X. Non-Discrimination Under Federally Assisted Health Care Programs. Witnesses testified that a

number of state agencies require pledges of non-discrimination for the ostensible purpose of meeting the requirements of title VI of the Civil Rights Act. Comments received were justifiably bitter in view of the profession's record of non-discrimination in patient care.

Your Reference Committee has been informed that the Department of Health, Education, and Welfare has recognized the injustice of these state agency requirements and has recommended a substantial modification of this practice. Your Reference Committee believes that this matter should receive continuing surveillance.

Although the Reference Committee recommended that this subject be referred to the Board of Trustees for continuing study by the Association's Law Department, the House did not concur and, in response to a motion from the floor, adopted Resolution No. 1.

WHEREAS, The Department of Health, Education and Welfare has attempted to force physicians treating patients under federally-assisted programs to sign pledges of non-discrimination and

WHEREAS, Physicians, by subscribing to the principles of Medical Ethics, willingly pledge to render service unconditionally to all patients with full respect for the dignity of man, providing for each a full measure of service and devotion, including in time of war the provision of medical care to the captured enemies of our country; and

WHEREAS, These conditions willingly self-imposed by the medical profession far exceed any pledge of this nature demanded by a Federal bureaucracy; therefore be it

Resolved, That all physicians are hereby informed that the refusal to sign such an oath does not flout the law; and be it further

Resolved, That the House of Delegates directs the Board of Trustees and the Officers of this Association to oppose actively and forcefully this and any future attempts by HEW or any other Federal agency to impose conditions and pledges upon the medical profession.

XI. Separation of Professional Fees and Hospital Charges. Mr. Speaker, we offer the following statement of policy for consideration by the House:

Hospital-based medical specialists are engaged in the practice of medicine. The fees for the services of such specialists should not be merged with hospital charges. The charges for the services of such specialists should be established, billed and collected by the medical specialist in the same manner as are the fees of other physicians. The American Medical Association intends to continue vigorously its efforts to prevent inclusion in the future of the professional services of any practicing physician in the hospital service portion of any health care legislation.

Adopted as amended.

Mr. Speaker, the policy statements herein presented to the House for its action are intended to respond to the specific problems placed before this Reference Committee. We are certain that more definitive statements on Public Law 89-97 will be adopted by this House as regulations are promulgated and as the program is implemented. But lest we be misunderstood, your Committee wishes to clearly emphasize that none of its recommendations should be construed as approval of Public Law 89-97, or in any way as acceptance of its philosophy.

Dr. James Z. Appel, in his remarks as President, told of his awareness of the problems before us. Dr. Appel spoke in his own behalf, but his comments reflected your Committee's feelings as well.

We congratulate him on his statesmanlike presentation, and we commend to each delegate the written transcript of his remarks.

Dr. Appel reminded us that, "Ours is a profession which must remain unified." "Ours is a profession which *must* remain unified," echoed many a speaker before your Reference Committee. These expressions of unity were voiced time and time again.

How shall we best maintain unity?

The Board of Trustees, in its report to this House, detailed in chronological order its efforts and experiences since the Annual Convention in June 1965. Your Committee heard many witnesses testify to the good work of the Board, to its devotion, and to its strength during these difficult times. To these unanimous expressions of confidence, your Committee adds its own. But we would not stop here. The leadership of the American Medical Association has been tested under fire. In difficult and crucial times, our officers and the Board have responded to legislative crises with courage and conviction. Years of withstanding the onslaught of the Medicare proponents did not weaken or lessen the determination of our officials.

The enactment of Public Law 89-97 would have come long before were it not for the leadership of our Board and Officers.

Nor should we fail to gratefully acknowledge the dedication, the inexhaustible effort, and the guidance provided by Dr. Blasingame and Dr. Howard, our Executive and Assistant Executive Vice Presidents.

We believe that the members of this House of Delegates would profit from a current report of the Association affairs, its programs, facilities, and personnel. Mr. Speaker, your Reference Committee recommends that Dr. Blasingame be invited to make such a presentation at the Clinical Meeting in Philadelphia.

Adopted.

Mr. Speaker, before closing this report, your

Committee would acknowledge some additional testimony received during the course of its hearing. Some speakers complained of inadequate knowledge of the activities of the Board, Councils and Committees of the Association. We believe that wherever the fault may be found, it must be shared by many. Undoubtedly, the Association should strive to continue to improve all means of communication available to it so that each physician member will be kept well informed on important matters. But each physician must be willing to receive the information beamed his way—through news releases, the weekly *AMA News*, and other AMA journals, publications, and communications. Finally, some of the fault must be shared by those state societies, or local medical societies, who at times receive the news from the AMA but fail to relay it to their members.

In Resolution No. 3 and in other remarks of witnesses, the Board and the House of Delegates were asked to consider the need for long-range planning. Your Committee believes that planning for the future should be an integral part of the activities of each AMA Council and Committee, as well as of the Board. While we realize that planning is a continuing and on-going program in the AMA, we would urge that the Board of Trustees take steps to assure that efforts in this regard be stressed even more by the Councils and Committees. Society is in constant flux and the American Medical Association must be prepared to meet the challenge of our times.

In still other remarks, the need for active physician participation in political activity remains clear. Your Reference Committee recommends that the House urge constituent medical societies and physicians to support and assist AMPAC and local medical political action committees in their efforts to elect candidates to office who will help preserve the physician's right to the free and independent practice of medicine.

In conclusion, Mr. Speaker, the members of your Reference Committee have been privileged to act in the capacity assigned to them. We know that in these trying times, the physicians of America will stand together and serve together in the best interests of their patients.

As a point of personal privilege, Mr. Speaker, I wish to express my gratitude to each member of the Committee for his patience, and for his diligent effort in discharging the monumental task assigned to him.

Submitted by:

George J. Lawrence, Jr., M.D., New York

George W. Petznick, M.D., Ohio

Harvey Renger, M.D., Texas

John M. Rumsey, M.D., California

B. E. Montgomery, M.D., Illinois, *Chairman*

Other House Action

The House recommended that tape recordings of Dr. Edward Annis' presentation before the National Orientation meeting held October 1, 1965, be made available to any member of the Association upon request at a cost basis (to be paid by person requesting tape).

Announcements

(Continued from page 524)

oidomycosis, Del E. Webb TowneHouse, Phoenix, Arizona. For further information contact: Arizona Tuberculosis and Health Assn., Inc., 733 West McDowell Road, Phoenix 85007.

POSTGRADUATE COURSES

University of Kansas:

Nov. 17-18 *A. Morris Ginsberg Memorial Seminar*
(Menorah Medical Center, K. C., Mo.)

Jan. 20-21 *Medicine and the Law*

Jan. 24-25 *Gynecology and Obseterics*

For further information write the Department of Postgraduate Medical Education, University of Kansas Medical Center, 39th & Rainbow Blvd., Kansas City, Kansas 66103.

University of Colorado:

Dec. 6-7 *Symposium on Menstrual Mechanisms*

Jan. 16-22 *Annual General Practice Review*

For further information write the Office of Postgraduate Medical Education, University of Colorado School of Medicine, 4260 East Ninth Avenue, Denver 80220.

American College of Chest Physicians:

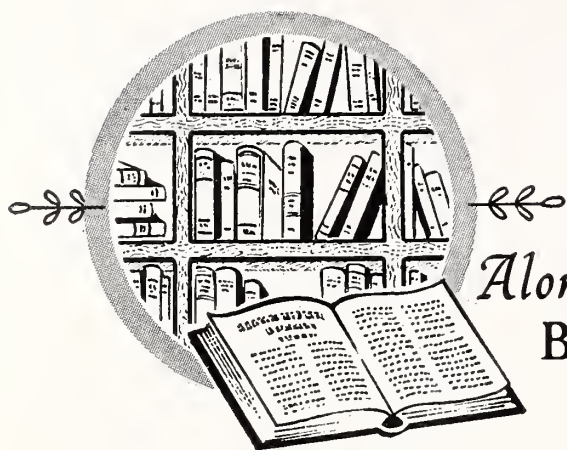
Jan. 24-28 *What's New in the Diagnosis and Treatment of Cardiovascular and Pulmonary Diseases*, Miami Beach

For further information write the American College of Chest Physicians, 112 E. Chestnut St., Chicago 60611.

TEST EVERY PATIENT FOR DIABETES

DIABETES WEEK

NOVEMBER 14-20



Along The BOOKSHELF

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Recent Acquisitions

- Andersen, S. B. Metabolism of human gamma globulin . . . Davis, 1964.
- Andrew, Warren. Comparative hematology. Grune & Stratton, 1965.
- Beck, S. J. Psychological processes in the schizophrenic adaptation. Grune & Stratton, 1965.
- Belding, D. L. Textbook of parasitology. 3d ed. Appleton-Century-Crofts, 1965.
- Bickford, R. G., Jacobson, J. L., and Langworthy, David, comp. A KWIC index of EEG literature (and society proceedings). Elsevier, 1965.
- Boyd, William. Pathology for the physician. 7th ed. Lea & Febiger, 1965.
- Brožek, J. M., ed. Human body composition: approaches and applications. Pergamon, 1965.
- Calderone, M. S., ed. Manual of contraceptive practice. Williams & Wilkins, 1964.
- Coggeshall, L. T. Planning for medical progress through education; a report submitted to the Executive Council of the Association of American Medical Colleges. The Assoc., 1965.
- Cole, W. H., and Puestow, C. B., eds. First aid, diagnosis and management. 6th ed. Appleton-Century-Crofts, 1965.
- Day, E. D. The immunochemistry of cancer. Thomas, 1965.
- Drill, V. A., ed. Drill's pharmacology in medicine. Edited by J. R. DiPalma. 3d ed. McGraw-Hill, 1965.
- Dublin, L. I. Factbook on man, from birth to death. 2d ed. Macmillan, 1965.
- Fabricant, N. D. and Conklin, Groff. The dangerous cold: its cures and complications. Macmillan, 1965.
- Gillies, R. R. and Dodds, T. C. Bacteriology illustrated. Williams & Wilkins, 1965.
- Greenhill, J. P., ed. Obstetrics, from the original text of J. B. de Lee. 13th ed. Saunders, 1965.
- Haase, H. J. and Janssen, P. A. J. The action of neuroleptic drugs; a psychiatric, neurologic and pharmacological investigation. Year Book, 1965.
- Hilleboe, H. E. and Larimore, G. W., eds. Preventive medicine . . . 2d ed. Saunders, 1965.
- Hirschhorn, R. C. Handbook of practical urology. Lea & Febiger, 1965.
- Lawson, J. H. A synopsis of fevers and their treatment. 11th ed. Year Book, 1965.
- Luisada, A. A. From auscultation to phonocardiography. Mosby, 1965.
- Maisel, A. Q. The hormone quest. Random House, 1965.
- Marcus, A. J. and Zucker, M. B. The physiology of blood platelets . . . Grune & Stratton, 1965.
- Martin, L. C. Clinical endocrinology. 4th ed. Little, Brown, 1964.
- Meister, Alton. Biochemistry of the amino acids. 2d ed. Academic, 1965. v.1-2.
- Pasquier, J. F., Trnka, L., and Urbančík, R., eds. The use of radioactive isotopes in tuberculosis research. Proceedings of the international symposium held in Prague, May 14-17, 1963. Pergamon, 1965.
- Rehman, Irving and Hiatt, Nathan. Descriptive atlas of surgical anatomy. McGraw-Hill, 1965.
- Robb, J. S. Comparative basic cardiology. Grune & Stratton, 1965.
- Schadé, J. P. and Ford, D. H. Basic neurology . . . Elsevier, 1965.
- Segal, B. L. and Likoff, William. Auscultation of the heart. Grune & Stratton, 1965.
- Sevelius, Gunnar, ed. Radioisotopes and circulation. Little, Brown, 1965.
- Smith, B. H. Principles of clinical neurology. Year Book, 1965.
- Thorek, Philip. Surgical diagnosis. 2d ed. Lippincott, 1965.
- Ulett, G. A. and Goodrich, D. W. A synopsis of contemporary psychiatry. 3d ed. Mosby, 1965.
- Vigran, I. M. Clinical anticoagulant therapy. Lea & Febiger, 1965.
- Wilkins, L. T. Social deviance: social policy, action, and research. Prentice-Hall, 1965.



PEDIATRIC THERAPY, edited by Harry C. Shirkey, B.S., M.D., F.A.A.P. C. V. Mosby Company, St. Louis, 1964. 1,144 pages illustrated. \$16.50.

This book is divided into 19 parts, each with a number of chapters. The first three parts discuss general principles of treatment, specific methods of prescribing drugs, general reactions to drugs, and routes and forms of administration of drugs. There is a second part dealing with treatment of specific symptoms, such as pain, fever, cough, anorexia, vomiting and so forth. General therapy is discussed, treatment resources, food therapy, nutritional therapy, the therapy of chronically ill children, and behavioral therapy.

Following these general topics, more specific diseases are considered and each disease categorized under its specific organ system, as well as specific diseases of an infectious nature and their treatment are discussed. The book includes a table of dosages of all the drugs used in pediatric practice. An excellent discussion of poisonings is included, as well as surgical treatment in the general way.

The book is written by 72 different pediatric specialists and edited by Dr. Shirkey. It includes all of the pertinent new drugs used in pediatric practice as well as the reactions to these drugs. The book is well done and would be useful in the library of the practicing pediatrician as well as the general practicing physician. Its main usefulness would be in the manner of a treatment handbook for a quick reference to treatment procedures in various diseases, but it would be invaluable in an understanding of the total field of pediatric therapy.—*W.H.C.*

PRINCIPLES OF PUBLIC HEALTH ADMINISTRATION, by John J. Hanlon, M.S., M.D., and M.P.H. C. V. Mosby Company, St. Louis, 4th edition, 1964. 719 pages. \$11.50.

This book of 719 pages is a complete guide to the administrator of a Public Health Department—if he

has the spare time to spend in digging through pages of rather irrelevant material.

Certainly the majority of local county health officers need a reference volume of recommendations for guidance in the area of administration, a subject in which he has had little, if any, training or experience. Dr. Hanlon has given us a book in which the first 153 pages are directed to the History of Public Health. The local county health officer is first mentioned on page 167.

We are so lacking experienced public health officers in this country that we are forced to draft exceedingly busy therapeutic practitioners to add the responsibility of public health to his already overload of medical service as a civic duty.

I have enjoyed the study of Dr. Hanlon's fourth edition, but I had plenty of time to devote to the matter and to make numerous re-reading of some aspects that have and are giving all of us, as preventive medicine practitioners, considerable headaches.—*J.M.M.*

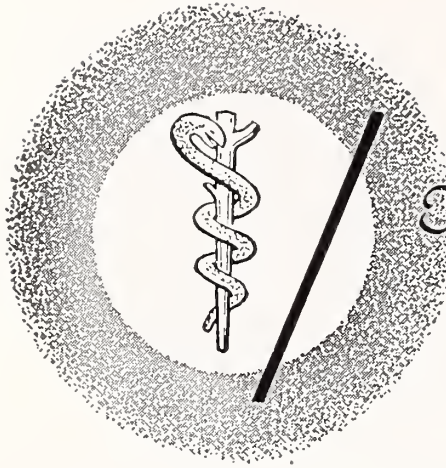
FITNESS FOR THE WHOLE FAMILY, Edited by Paul Dudley White, M.D. and Curtis Mitchell. Doubleday and Company, Inc., Garden City, New York, 1964. 294 pages, illustrated. \$4.95.

This book has been written by 19 authors and discusses the need for physical fitness for the entire family.

Dr. Paul Dudley White is probably the best known author. He continues to tell the public the need for and benefits of walking, bicycling, and any kind of regular exercise.

The mortality rate due to obesity is discussed. Chapter 10 discusses exercise for the entire family. Chapter 11 discusses simple backyard exercise equipment.

This book would be helpful to the family interested in learning the objectives of physical fitness and everyday exercises which are within financial reach of every family.—*W.N.*



The Kansas Press Looks at Medicine

Editor's Note. In this section the JOURNAL reproduces editorials relating to medicine which have appeared in the lay press. An effort is made to include both favorable and unfavorable comments, and the Editorial Board in no instance assumes responsibility for the opinions expressed.

DOCTORS LEFT OUT OF PLANNING

The American Medical Association lost heavily in its struggle over medicare, a losing battle—and doctors are still finding out how much they lost in the administration and even the public regard.

It is an astonishing thing but many persons seem to think the defeat means that the AMA and even doctors have been put into the background of planning for medical care, for all time to come. In the end, doctors are to provide the most vital care, and yet vast plans are made in which doctors are barely consulted, if they are at all.

All the planners give doctors considerable lip service. They recognize they can't get along without the M.D.'s and that we are going to need more of them. But they go right ahead with things which doctors may tell them are likely to cause medical care quality to deteriorate and bright young persons to shun the profession. Physicians will just have to accommodate themselves and should do it without a fuss.

The planners are in the saddle—and they have vast plans. Medicare as passed in 1965 is only the beginning. Some of the planners hope to adopt essentially the British system of medical care for everyone—as a minimum goal—and they have no intention of stopping short of it.

Physicians, of course, do not feel as the people do. They were beaten but they don't feel they were wrong. They feel the people made a foolish mistake which they will be paying for, probably from now on. They plan, probably uselessly, to oppose as much more folly as they can. That doubtless is why they rate so low with the planners. But the people should for their own sakes take a different attitude.—*Dodge City Daily Globe*, September 27, 1965.

BACKWARD MEDICARE

One surplus this nation has never known is that of doctors.

Congress and the administration made certain the professional shortage, in both rural and metropolitan areas, will get worse before it gets better through passage of Medicare with its obvious new demands on the present supply.

Now Congress is wisely taking steps to relieve that shortage.

The House has approved the Health Professions Educational Assistance Act, a two-pronged effort.

One provision is for federal grants to build teaching facilities for doctors, dentists, nurses and other health workers.

The other is for low-interest loans for medical students. This program originally was limited to medicine, osteopathy, dentistry and optometry, and now includes pharmacy and podiatry.

The House also increased the loan limit from \$2,000 to \$2,500 a year, and would waive repayment of up to 50 per cent of the loans to physicians and dentists who agree to practice in areas where few professionals are available. In addition, outright scholarships for students of needy families are provided.

It may be argued, and was, that these scholarships are needless in view of the high earnings the students may expect. It is difficult, however, to draw a line between an M.D. and a physicist who gets a federal fellowship, with no repayment strings attached.

Regardless of such fine points and other theoretical arguments, this program is urgent. By helping both the schools and the students, Congress will sow the seeds for an expanded harvest of professional men and women.—*Ottawa Herald*, September 24, 1965.

KANSAS STATE DEPARTMENT OF HEALTH

TOPEKA, KANSAS

Division of Preventable Diseases—Division of Vital Statistics—Kansas Morbidity Incidence
Summary of Cases Reported in July, 1965 and 1964

Diseases	July		5-Year Median 1961-1965	January to July Inclusive		
	1965	1964		1965	1964	5-Year Median 1961-1965
Amebiasis	—	1	1	3	11	25
Aseptic meningitis	—	1	—	3	2	2
Brucellosis	—	1	—	3	2	6
Diphtheria	—	—	—	1	3	—
Encephalitis, infectious	1	4	2	8	24	11
Gonorrhea	191	337	202	1433	1868	1600
Hepatitis, infectious	18	38	22	321	442	331
Meningitis, meningococcal	—	2	1	13	8	10
Pertussis	3	—	3	11	13	17
Poliomyelitis	—	1	—	—	1	—
Rheumatic fever	—	—	—	2	3	3
Salmonellosis	21	10	12	151	91	91
Scarlet fever	1	—	4	59	65	281
Shigellosis	5	12	13	79	154	79
Streptococcal infections	100	70	67	2116	1123	907
Syphilis	67	79	79	525	569	661
Tinea capitis	11	12	6	37	58	58
Tuberculosis	22	26	18	141	158	158
Tularemia	—	—	1	2	4	7
Typhoid fever	—	1	—	—	3	—

Personalities

(Continued from page 523)

The fall meeting of the Kansas Psychiatric Society was held in Osawatomie in September. Among those participating in the program were **George Zubowicz**, Osawatomie, who served as program chairman; **Donald Greaves**, Kansas City; and **Prescott W. Thompson**, Topeka. Dr. Greaves and Dr. Thompson were moderators for the scientific program.

Robert C. Lawson, Topeka, was one of the speakers at an x-ray refresher course held at the University of Kansas Medical Center in October. The course was sponsored by the Kansas Society of Radiologic Technologists.

NEW MEMBERS

The JOURNAL takes this opportunity to welcome these new members into the Kansas Medical Society.

Richard N. Barr, M.D.
115 South 18th Street
Kansas City, Kansas

John J. Kepes, M.D.
University of Kansas
Medical Center
Kansas City, Kansas

Calvin E. Beck, M.D.
4320 Wornall Road
Kansas City, Missouri

William J. Porter, M.D.
Hertzler Clinic
Halstead, Kansas

Claude R. Kenyon, M.D.
7301 Mission Road
Shawnee Mission, Kansas

Michael J. Pronko, M.D.
University of Kansas
Medical Center
Kansas City, Kansas

Dexter L. Woods, Jr., M.D.
Dodge City Medical Center
Dodge City, Kansas

The Kansas Medical Society—1965-1966

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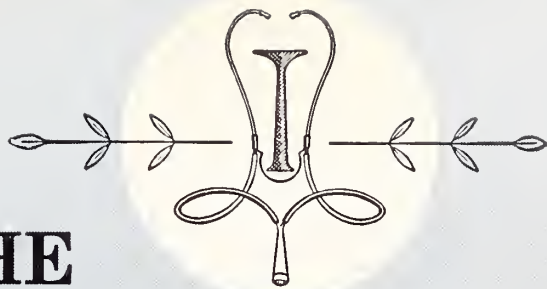
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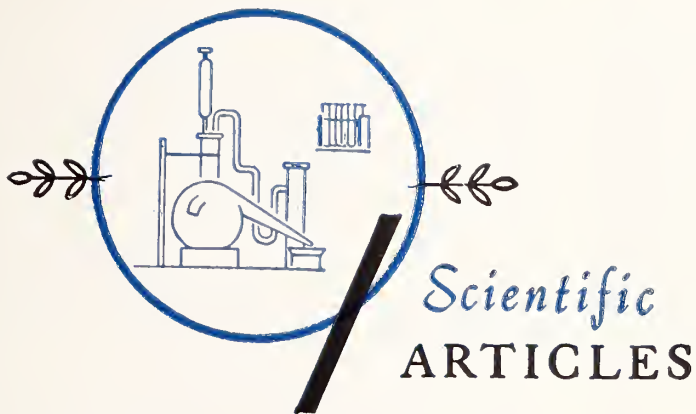
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Rabies Immunization

Immunization of Man Against Rabies

C. H. KITSELMAN, D.V.M., M.S., and

H. P. JUBELT, M.D., F.A.C.P., *Manhattan**

Early Vaccination

PASTEUR,¹ IN 1880, discovered the fact that the disease of rabies might be prevented by conferring gradual immunization with increasing doses of attenuated virus. The method consisted in passing the virus through a series of rabbits which resulted in shortening the period of incubation in rabbits (virus fixé) and diminishing the infectivity for man.

The type of vaccine used and the methods of production have changed considerably over the years since Pasteur made his discovery. However, the daily inoculation of the person exposed to rabies is still 14 to 21 doses, just as it was recommended by Pasteur. The desirability for a rabies vaccine free from the danger of central nervous system disturbances has led to numerous studies and refinements in the manufactured vaccine.

It is not our intention to give a detailed account of the many vaccines developed over the past half century, but to describe a presently accepted method of rabies vaccination and to show the part played by veterinary students in its development.

Improved Vaccine and Methods

The method which is being discussed is unique in that it offers an active protection against rabies which

It is now possible to offer active protection against rabies to persons who might be considered as having a high occupational exposure to the disease. Individuals such as veterinarians, laboratory technicians, dog catchers, etc., may wish to be so protected against rabies. The program presently recommended would be a series of two injections given within one month with a booster about four to six months later and then subsequent boosters at about two years intervals. The materials used in building up this active immunity is the duck-embryo rabies vaccine which is marketed by Eli Lilly and Company. Studies done here at Kansas State University as well as other schools would indicate that an active immunization with a satisfactory titer against rabies can be accomplished with the above program.

can be made available to persons prior to exposure. Individuals such as veterinarians, laboratory technicians, dog catchers, etc., may wish to avail themselves of this protection since with the original two dose series and subsequent boosters, an active, permanent protection is built up. So, this vaccination is for

* Dr. Kitselman is Professor of Veterinary Pathology, and Dr. Jubelt is director of the Student Health Center at Kansas State University in Manhattan.

a limited group of persons who may have a high occupational exposure to rabies.

In 1959, volunteer veterinary students in the schools of the University of Georgia and Texas A&M College respectively were inoculated with either chicken-embryo-rabies vaccine (CEV) or duck-embryo-rabies vaccine (DEV). The vaccination programs at each school was carried out as a separate study; however, the vaccine and methods used were the same. The chicken-embryo vaccine is high egg passage modified live virus Flury Strain supplied by Lederle Laboratories and the duck-embryo vaccine is PVS strain, single passage in duck-embryo, inactivated with Beta Propriolactone and supplied by Eli Lilly and Company. These vaccines, the CEV and DEV, are not new as both are available on the market for vaccination against rabies. For the past several years CEV has been used to immunize animals against rabies and it is this type of vaccine that is given to domestic pets.

The DEV is the material known to the physician who has had to carry out the 14-shot vaccination of a human who has had a possible exposure to rabies. This is the vaccine marketed by Eli Lilly and packaged in a seven ampule packet as a dried vaccine and diluent.

All inoculations were in doses of 0.2 ml administered intradermally on the lateral aspect of the upper arm (deltoid area). For previously unvaccinated volunteers, which comprised the bulk of the group, a regimen was carried out consisting of a primary series of three inoculations one week apart, followed by a booster six weeks after the third inoculation of the primary series. Blood samples were collected just before the first inoculation (prevaccination) and four weeks after the booster dose. Volunteers were vaccinated with either DEV or CEV on an alternate basis.

The serum neutralization tests were done according to World Health Organization (WHO) standards with five-fold serum dilutions against a constant dose of DVS rabies virus. The result obtained in the two groups showed a slightly increased number of responses in favor of the DEV over CEV.

Kansas State University Program

In 1961, the Communicable Disease Center (CDC), Department of Health, Education and Welfare (HEW), agreed to make a study on volunteer students in the Veterinary College of Kansas State University to determine dosage, time interval and inoculation routes for DEV. It was during this study that the decision was made to eliminate the drawing of prevaccination blood because it was extremely rare to find a person carrying antibodies against rabies without a history of one or more Pasteur Treatments.

Furthermore, it was more important to determine a positive response (antibody titer) after the booster dose, and so, mice which were used in the neutralization tests were conserved.

Fifty-seven veterinary students volunteered for the study and were placed at random into four categories. The study was set up to evaluate the intradermal as opposed to the subcutaneous route of administration, and to determine if the time interval of one week versus one month between inoculations of the primary series proved more adequate. The intradermal dose used was 0.2 ml and the subcutaneous dose was 1.0 ml.

The two routes of injection used in the immunization program were the intradermal and the subcutaneous. For each route of injection there were two schedules for the primary series of three doses. Those on one schedule were given injections at weekly intervals and those on the other at monthly intervals. In all cases the booster was given six weeks after the third injection of the primary series.

Results

When the results of such studies were tabulated, it became apparent that the subcutaneous route was superior to the intradermal. Since the subcutaneous dose was five times the volume of the intradermal dose, it is presumed that this greater mass with slower absorption rate may account for the better response to the subcutaneous route.

The study also seemed to indicate that the vaccine should be given monthly rather than weekly. It was thought that this longer interval probably gave a better response because of slow absorption of the material.

The above information—doses given subcutaneously and at intervals of one month—would certainly coincide with the administration of other immunizations and vaccinations. Most active immunizations given by the practicing physician are given by the subcutaneous route and at monthly intervals, *i.e.*, Triple vaccine, D-T, Polio, etc.

From the point of view of the subject, the subcutaneous route seemed to be preferred. There were fewer complaints of discomfort and this is quite important. Too, it is easier for medical personnel to administer the vaccine subcutaneously and it can be done much faster. The fewer complaints of pain and less criticism about the loss of time are both very important to a Health Service which is tuned to student criticism.

It should be mentioned again that the response to the vaccine was determined by the serum neutralization tests according to WHO standards.

In 1963 a study was undertaken to compare the titer response after a primary series of two injections with a primary series of three injections. The post-

series booster was given at the four to six months interval in both groups. This study was set up on two veterinary medicine classes.

The result showed approximately 90 per cent response for both groups. As a result, the routine primary series has been decreased to just two immunizations. Thus, the patient is spared one injection and vaccine, time, and labor is also saved.²

Current Program

The program as it has developed for the veterinary students is as follows: A series of two primary injections are given during the second semester of the first year with the booster approximately four to six months later (1st semester, second year). If any student fails to respond with a satisfactory titer, he is then given another booster and another titer is determined. The purpose for this timing is to have the student protected at the time he starts clinics and comes into contact with animals. The protection is adequate for two years and during the second semester, fourth year, another booster is given and a blood titer obtained. The student is thus protected for his first two years after graduation and this protection can be maintained by taking a booster every two years thereafter. A card is given each veterinary graduate, bearing his rabies vaccinations history and a few simple directions to guide the physician if the veterinarian is exposed to a known rabid animal.

The graduating class of 1964 was the first veterinary class at Kansas State University to complete the program and the 1965 class will be the second.

The program as it has developed over the past four years made possible a donation of 173 pints of high rabies antibody blood from the student chapter of the American Veterinary Medical Association to the anti-rabies globulin blood bank. This human anti-rabies globulin will be processed and stored at CDC, Atlanta, Georgia, and made available to those persons who need the passive immunity protection afforded by anti-rabies serum but who are allergic or sensitive to the anti-rabies horse serum, now available on the market.

Review

A brief review of the above would lead one to point up the following facts:

—An active immunization against rabies is now available for those in professions or occupations of high incidence of exposure.

—This immunization can be accomplished with 1.0 cc of DEV (Eli Lilly) given subcutaneously and a similar dose in one month. The primary series is followed with a booster of 1cc in four to six months and then subsequent boosters every two years or at the time of exposure.

—The above schedule is much the same as that followed with many of our other vaccines.

—The rabies vaccine is well tolerated with a minimal number of reactions. Only in one or two instances was it deemed necessary to discontinue the vaccine.

—The DEV material is currently on the market and easily procured from Eli Lilly or many jobbers and pharmacies.

—The physician can easily carry out the primary series or the boosters as he does with many other immunization programs.

—Because the DEV is a vaccine from a killed virus, the incidence of reactions is practically nil.

—Of course, one should inquire about known allergies and particularly that to duck. If the specific allergy is elicited, then a skin test with a small amount of the diluted vaccine would be advisable. The sensitivity test is carried out by injecting 0.05 ml of a 1:1000 saline dilution of the vaccine. This is given as an intradermal injection and the reaction checked in 15 to 30 minutes. If a wheal appears, the immunization program must be discontinued.

—An anti-rabies hyperimmune globulin (human) is now or soon will be available since fractionation of blood is now being carried out. This blood has been donated by persons who have received the above active rabies immunization. This voluntary blood donation program and the fractionation is being done by CDC of HEW at Atlanta, Georgia.

—There is no need to rule out as regular blood donors those who have participated in a rabies vaccine program. The recipients of this vaccine are acceptable for blood donations.

The authors of this paper do not wish in any way to convey the impression that this method of vaccination against rabies is their own idea or method. The real reason for this presentation is twofold—to make the above information generally known and to inform veterinarians and medical doctors of the exact type of vaccine and method of administration. The latter is in self-preservation so that the authors can be spared much private correspondence and inquiry.

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References

1. Compt. Rend. Acad. d. Doc. 1881, xcii, 159.
2. CDC Vet. P. H. Notes, U. S. Dept. HEW, April 1965: Pre-exposure rabies immunization.

Immunology . . .

. . . and Tissue Transplantation

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THE PAST TWO DECADES have witnessed a rapid growth in the clinical application of tissue transplantation and in the understanding of the basic biologic problems involved. It is the purpose of this paper to review some of the important advances in a concise form for the benefit of the interested practitioner and medical student.

Transplantation of the subject's own tissues, autografting, and between animals with identical genetic constitution, isografting, involves no immune (rejection) response and success depends on technical advances. Examples are skin autografts and isografts and kidney isografts. However, with a few notable exceptions, homografts and heterografts are universally met with an immune response and rejected. While much of what is known about homografting has been learned from tumor grafting in experimental animals, there are important differences between the homograft response to tumors and normal tissue. In this paper we are primarily concerned with homografting of normal tissues.

Mechanism of Rejection

Since 1944 it has been recognized that the homograft rejection response of normal tissues is due to the immunological mechanism of actively acquired immunity.³⁵ Rejection of experimental tumor homografts is due to the same general immunological phenomenon, a fact recognized since the late 1930's.⁵

Actively acquired immunity to homografts is most clearly demonstrated by the "second-set rejection phenomenon." This means that the second graft from the same or genetically identical donor undergoes accelerated rejection. While a primary set human skin homograft remains viable for about nine to twelve days, a second set homograft is viable for only six or seven days.⁶¹

Tissues have been shown to contain antigenic material that is particularly strong in producing the re-

jection response. The chemical structure of this antigenic material is not known. It may be a lipoprotein located on the microsomal fraction of the cell⁹ or a mucopolysaccharide or lipopolysaccharide located on the cell wall.²⁹ The chemical form in which these antigens presumably escape the grafted tissues is not known.⁵

A brief outline of the relationship of immunology to tissue transplantation has been undertaken. Current knowledge of the mechanism of homotransplantation rejection has been reviewed, pointing out the similarity of delayed hypersensitivity to the homograft rejection. The genetics of transplantation have been considered as has the recently emerging importance of the thymus in the early control of the immune response. Methods of altering the immune response, including the concept of acquired immunological tolerance and the clonal selection theory of acquired immunity have been considered. The survey is concluded with a summary of experience with various types of human homotransplants with primary emphasis on kidney homotransplantation.

When transplantation antigens enter the graft recipient both a humoral and a cellular response are elicited. Cellular immunity is demonstrated by severe hypertrophy of the regional lymph nodes, small lymphocyte and monocyte infiltration of homografts undergoing rejection and by the ability of sensitized regional lymph node cells to passively transfer immunity to an isogenic unsensitized animal, i.e., adoptive immunity.⁴² Immunity to homografts can also be transferred using small sensitized circulating lymphocytes,⁴² but passive transfer of immunity with serum from sensitized isogenic animals regularly fails.⁵ This is the strongest evidence of primary cellu-

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lar participation in graft rejection. For this and other reasons the homograft rejection has been likened to a delayed type hypersensitivity.

Humoral antibodies are demonstrated by hemagglutination and cytotoxic reaction;² however, they do not appear in measurable titer until after the rejection response. At least two observations support the impression that humoral factors have some importance in the homograft rejection response. Humans with congenital agammaglobulinemia have been shown to tolerate skin homografts for prolonged periods.²⁰ Also, a skin homograft to a recipient who has been strongly immunized against the donor's tissue undergoes rapid rejection, with no attempt at vascularization and evidence of an Arthus reaction in the graft bed.²⁹ This is called the "white graft" reaction and may also be seen if a second homograft from the same donor is applied eight to ten days after the previous homograft, at a time when humoral factors (circulating antibodies) are present in greatest quantity.³⁶

Paradoxically, there is some evidence that specific humoral antibody may at times cause prolonged homograft survival. This has been termed immunologic enhancement and differs from immunological paralysis and tolerance, to be discussed later, in that antigraft-antibody is present. The reader is referred to a recent review⁵¹ for discussion of this as yet unexplained phenomenon.

Of particular interest is the prolonged survival of a primary homograft in the cheek pouch of the Syrian hamster. The accepted explanation is that the thickened connective tissue of the cheek pouch in some manner prevents transplantation antigens from reaching the lymphatic system. If the hamster has previously received a homograft from the same donor strain to some site other than the cheek pouch, the cheek pouch homograft will be rejected. Or, after a cheek pouch homograft has become well established, it will be rejected if an orthotopic skin homograft from the original donor strain is placed.¹⁰ These findings emphasize the necessity for transplantation antigens to reach the lymphoid tissue in order for sensitization to occur.

The thymus is also interesting in this regard for almost no antibodies are formed in this organ. However, if antigen is injected directly into the thymus large quantities of antibody are formed. Various experimental observations suggest that a barrier exists between the blood stream and the thymus, thus preventing antigenic material from entering the thymus.⁴⁰

Normal brain tissue contains antigens which cause antibody production when injected into other parts of the body. Also, it has been shown that primary homografts are well tolerated when grafted into

normal brain. It is thought that these findings are explained by the lack of lymphatics in the brain thus preventing antigenic material from reaching tissue able to develop the immune response.²⁹ The similarity of brain, thymus and Syrian hamster cheek pouch homografting in this regard is apparent from these findings.

In order for the homograft to be rejected it is necessary for sensitized cells, probably small lymphocytes, to enter the homograft site. If a homograft is protected by a Millipore membrane, which excludes cellular material but allows noncellular fluid perfusion, rejection will not occur. Corneal homografts are not rejected, even in an animal previously sensitized to corneal tissue, because the cornea is not normally vascularized, thus eliminating circulating cellular material, i.e., lymphocytes.⁶¹

To summarize, the homograft rejection requires that transplantation antigens reach lymphogenous tissue which must be capable of forming sensitized lymphocytes which in turn must be able to return to the homograft site.

The reaction at the site of a homograft undergoing rejection is characterized by round cell infiltration, slowing of blood flow through the capillaries, agglutination, thrombosis, hemorrhage and finally necrosis. The exact factors causing these tissue changes are not known, but to date no intermediate chemical such as histamine has been shown to be important. One suggestion has been that a destructive enzyme is released from the sensitized host cells by the reaction of the graft antigen with the cell.²

Genetics of Transplantation

Earlier in this century it was shown that the basis of tissue incompatibility was genetic.³⁴ Apparently numerous dominant genes, named histocompatibility genes, express themselves by elaboration of material which is antigenic. The mouse has been estimated to have at least 15 different genetic loci important in production of transplantation antigens,^{54, 56} and at each genetic locus there may be as many as ten different allelomorphs.¹¹ In the mouse the H_2 locus is apparently the most important in the production of transplantation antigens and, in this species, the red cell antigens are controlled by the H_2 histocompatibility locus.¹¹ Similar genetic studies have been performed in other species.⁵ At present no concise data is available on the complexity of human transplantation genetics.⁵ Because of the large number of genetic loci and the various allelomorphs involved, the chance of a randomly chosen homograft being of identical genetic constitution as the recipient is extremely small.

The basic genetic rules regarding homograft compatibility are (1) grafts between genetically identical

individuals survive indefinitely while (2) grafts between genetically different individuals are rejected. If members of two inbred strains are mated an F_1 hybrid generation is produced which will (3) accept grafts from either parent but (4) grafts from the F_1 strain back to either parent will be rejected.⁵⁵ Finally (5), only a portion of the F_2 generation will accept grafts from the original parental strains.¹¹ It was only after the development of highly inbred strains of laboratory animals by repeated brother-sister matings that these essential facts of transplantation genetics were learned.

One possibility for rapidly advancing the clinical science of transplantation would be to devise a practical method of testing cells of different prospective donors and recipients for histocompatibility, "tissue typing,"⁵ similar in concept to red blood cell typing. As previously mentioned, mouse red blood cell antigens are controlled by the H_2 histocompatibility locus, generally regarded as the most important histocompatibility gene governing transplantation antigens, at least in the mouse. However, the antibodies against red blood cell antigens are not thought to play a role in the destruction of homologous skin grafts.¹¹ Blood group compatibility is therefore not by itself a sufficient test for transplantation purposes. Experience with human kidney homografting indicates, however, that the general rules of universal donor (O neg) and universal recipient (AB pos) blood types also should be observed in homografting.⁵⁷ Recent experimental work with tissue typing has centered around lymphocyte typing.^{12, 50}

Methods of Altering the Immune Response

Briefly stated, the problem transplantation immunology faces is finding a means of altering the immune response without at the same time adversely affecting the homograft recipient.

The most important recent step forward in the basic understanding of the immune response and how it may be altered was the demonstration of actively acquired immunological tolerance, work that won the Nobel prize in medicine for Doctors P. B. Medawar and F. M. Burnet in 1960. A brief review of the development of this concept follows. Early in this century Lillie³³ observed that in cattle most dizygotic twins are syncorial and placental circulation cross-over occurs in utero, the cause of free-martins. Later, Owen⁴⁶ observed an incidence of identical blood groups that was higher than the incidence of uniovular twins. This happens because dizygotic twins in which this cross circulation occurs have a mixture of their own and their twin's erythrocytes and this mixture is maintained, without harm, throughout the life of the animal. These animals are called red cell chimeras.

As an explanation of red blood cell chimerism in

cattle Burnet and Fenner¹⁵ postulated that during fetal life the individual learns to recognize any antigenic material it is exposed to as "self" and consequently does not reject it. Thus, if foreign antigens are introduced into the fetus during this period of "self-recognition" or immunologic immaturity, they will later be recognized as "self" and not provoke an immune response. Strong evidence in support of this theory was the demonstration that cattle red cell chimeras will tolerate reciprocal skin grafts indefinitely.³

Medawar and his associates soon provided laboratory support for this theory by experiments in inbred strains of mice. They inoculated cells (lymphocytes and spleen cells) from adult and fetal mice of strain A into embryos in utero of strain CBA mice. Isogenic (A) homografts placed on the inoculated CBA mice six to eight weeks after birth survived indefinitely.⁸

It was soon learned that about 60 per cent of the animals in which acquired immunological tolerance had been produced developed a syndrome known as runting, homologous or secondary disease. This is characterized by weight loss, diarrhea and death in about five weeks and is thought to represent a reaction of the immunologically competent injected cells against the antigens of the homologous host, i.e.: a graft versus host response.⁶

This "self, non-self" concept is the basis of Burnet's clonal selection theory of acquired immunity.¹⁴ He postulates that a particular antigen present in embryonic life either destroys all cells capable of reacting with it or alters the enzyme systems of immune cells so they will not react with these antigens. The immunologically competent cells present at birth are then able to multiply as selected clones able to react against antigens introduced after birth.

Immunological tolerance is an important concept of general biology, for by this mechanism the animal is protected from immunological reactions against the antigenic material in its own body. Breakdown of tolerance results in auto-immune disease.

A second method of altering the immune response is immunologic paralysis. It has been shown that large doses of pneumococcal capsular polysaccharide cause no antibody formation but good antibody production occurs with smaller doses of antigenic material.²⁴ To a limited extent protein overdosage causes a similar effect.²⁹ The theory is that if an excessively large antigenic dose is administered central inhibition of the antibody forming mechanism occurs.⁵³ It was hoped this would prove helpful in the transplantation of large organs such as the kidney. Whether or not immunologic paralysis is in any way related to increased survival of kidney homografts is problematic at present.

Parabiosis has been shown to prolong survival of homotransplants. It has been proposed that this tolerance is a form of immune paralysis due to the large

exchange of transplantation antigens between parabionts.²⁵

A third proposed method of altering the immune response is to modify the graft antigens prior to transplantation. Methods used have been pre-treatment of graft with x-ray, freezing, chemicals and enzymes, culture of tissue in vitro, preliminary heterotropic transplantation and hormonal stimulation of the graft in the host. None of these methods has proven satisfactory in significantly altering the immune response and at the same time preserving viable tissue.⁶¹

Total body irradiation has been used as another method of altering the immune response. Lethal dosage completely suppresses the immunological response; however, the bone marrow is completely destroyed and animal survival depends on transfusion with bone marrow cells. If homologous bone marrow cells are used the animal is then called an irradiation chimera and will accept grafts isogenic with the transplanted bone marrow cells. However, secondary disease results, probably by a graft versus host reaction as described previously. High sublethal dosage results in a high radiation death rate, but low sublethal irradiation does not materially affect the homograft response. Therefore, radiation alone has not proven to be practical as a clinical method of altering the immune response.

Selective irradiation of the lymphoid tissue by perfusion with radioisotopes has recently been performed with Yttrium 90, a radioactive isotope emitting high energy B rays and of short half life.⁶⁰ The place of such a procedure in transplantation has yet to be evaluated.

A fifth method of altering the immune response is to use chemotherapeutic agents. Cortisone has been shown to prolong the survival of homografts in lower animals but not in humans.⁶¹ It also inhibits synthesis of various antibodies⁵⁹ and decimates the lymphocyte population.¹⁹ However, cortisone will not completely suppress the immunological response and has been used as an ancillary agent in clinical homotransplantation.⁴⁵

Several different cytotoxic drugs have been employed in an attempt to prolong homograft survival. Nitrogen mustard was one of the first agents tried and was found to be ineffective.⁴ In 1959 Schwartz and Dameshek demonstrated the immune suppressive effectiveness of 6-mercaptopurine in relation to heterologous proteins. An imidazole derivative of 6-mercaptopurine, azathioprine (Imuran®) has been demonstrated to be the single most effective chemical immunosuppressive agents, at least when kidney homotransplants are involved. Other agents used have included azaserine, methotrexate and Actinomycin C.¹

The mechanism of action of these drugs in suppressing the immune response is not known. Metho-

trexate is a folic acid antagonist that also inhibits purine synthesis. Azathioprine, 6-mercaptopurine and azaserine also inhibit purine synthesis but at different points in the purine synthesis cycle.¹ Actinomycin C has been shown to completely inhibit mammalian cellular RNA biosynthesis but not to inhibit cellular DNA synthesis.⁴⁸ However, the known anti-metabolic activity of these drugs has largely been determined by bacterial and viral studies and cannot be definitely correlated with their immunosuppressive effectiveness.¹

These drugs have been and continue to be extensively studied in canine renal homografting. The most effective combination has been azathioprine and azaserine. With this combination a 100 per cent 20-day survival can be obtained with an average survival time of 57 days.¹

Role of the Thymus

Recent work has shown that neonatal thymectomy in mice causes noticeable decrease in circulating lymphocytes, germinal follicle and plasma cell deficiency in the lymph nodes, impairment of the immune response and antibody production system, wasting disease and death.^{40, 41} Skin homografts are accepted by these animals for long periods of time, while normal mice or sham-thymectomized mice rejected the homograft promptly.⁴¹ Thymectomy in normal adult animals has been shown to have little effect on the immune mechanism of the animal.⁴¹ However, after total body irradiation of the normal adult mouse thymectomy has been shown to seriously impair the immune response as evidenced by prolonged survival of skin homografts and decreased antibody formation.⁴⁰ This indicates that recovery of lymphopoietic and immune function is thymus dependent.³⁹

To explain these findings it has been suggested that "during embryogenesis the thymus would produce the originators of immunologically competent cells many of which should have migrated to other sites at about the time of birth."⁴⁰ An alternate explanation is that the thymus may produce a lymphocytosis stimulating factor.^{32, 38}

As mentioned earlier the thymus is apparently shielded from the entry of antigenic material. This finding has been interpreted as supporting Burnet's clonal theory of acquired immunity. Because the thymus cells are shielded from extrinsic antigenic material and because differentiation and multiplication of immunologically competent cells should take place only in the absence of antigenic material, it is postulated that a specialized environment is provided "in which differentiation and non-specific multiplication of cells with immunological potential can take place."³⁹

Status of Homografting in Humans

Homografting in humans has occasionally been tried for many years but has met with repeated failure because of the immune response. Efforts recently have centered on methods of suppressing the immune response so that homografts might survive. Brief mention will be made of experience with several types of human homografts, with most emphasis being placed on the work with kidney transplantation.

Homostatic homotransplants are temporary supporting structures serving as a framework for replacement by host tissue. They do not survive as viable tissue. Examples of tissue adaptable to homostatic graft are bone, peripheral nerves and arteries. These homotransplants are more satisfactory if their antigenicity has been wholly or partially destroyed. The processes of storing and sterilizing (freezing, drying, irradiation and time) apparently accomplish this to some extent.^{13, 61}

Homostatic bone homografting is a widely accepted and valuable tool in the treatment of fracture non-unions and in fusion operations.⁶¹ Peripheral nerve homografting has been tried for years but until recently has universally failed. Recently, these homografts have been freeze-irradiated and transplanted in Millipore chambers with results meriting cautious optimism.¹⁷

Artery homografting has almost completely been replaced by superior synthetic substitutes.⁴⁹ From a historical viewpoint they are interesting because it has now been recognized that the large number of failures with small artery homografts was probably due to the immune response. On the other hand, aortic homografts have proven relatively satisfactory, almost certainly because of the relative preponderance of weakly antigenic elastic tissue in the aortic wall.⁴⁹

Human corneal homografting is an established surgical procedure. Corneal homografts survive indefinitely, probably because the cornea is normally a non-vascular organ and this prevents immunologically reactive cells from reaching the graft and causing its destruction. This observation is supported by the fact that corneal homografts are rejected if the cornea becomes vascularized.⁶¹

Some consider that endocrine gland homografts are less prone to rejection by the immune response than other tissues.⁶¹ Parathyroid homo and heterotransplants have occasionally apparently functioned for prolonged periods.³⁰ However, permanent function of these endocrine transplants almost certainly does not occur.⁵

Examples of primarily vascularized homografts are the lung, heart, liver and kidney. Recent attempts have been made at human lung homotransplantation,²⁷ heart heterotransplantation²⁶ and liver homotrans-

plantation.⁵⁸ By far the best studied primary vascular homograft is the kidney. For several reasons kidneys are particularly suitable for homografting. The kidney represents a large antigenic dose, these antigens reach the host by the venous route and continuous supplies of these antigens are available because the kidney is an actively metabolizing, viable tissue. These factors are considered important in the production of tolerance.⁷ Also, the recipient of a kidney transplant is usually suffering from chronic uremia and it has been shown that skin homografts survive for prolonged periods in the uremic patient.¹⁸ Four human kidney homografts in unmodified uremic recipients survived from 37 to 157 days.²⁸ This makes evaluation of the various forms of therapy used to suppress the immune response difficult.

In the past decade several human kidney isografts have been reported. These have all functioned indefinitely from an immunologic point of view. However, the transplanted kidney has often developed the same pathology as the removed kidneys.¹⁶ These cases offer no new insight into the immunological problems of transplantation.

A recent review of approximately 200 human kidney homografts revealed that only six have been known to live for as long as a year and less than 10 per cent live as long as three months.²² However, it has been estimated that "with compatible family donors, current short term success rates (survival over six months) run from 75 to 80 per cent."⁴³ Also, a few heterografts have been attempted using chimpanzee donor kidneys but no long term survivors are yet available for study.⁴⁷ Probably the longest survivor is a kidney homografted from a non-identical twin. The patient was alive and well after four years when last reported in 1963.³⁷ These non-identical twins are probably closely related genetically as the first set skin homograft rejection of donor skin by the recipient was 23 days.³⁷

The general methods used to prolong homograft survival in the human include sublethal total body irradiation,^{23, 44} combined irradiation and chemotherapy,³¹ focal irradiation of lymphoid tissue²¹ and immunosuppressive chemotherapy used alone.⁴⁵ One group has included pre-transplant thymectomy and splenectomy.⁵⁷ The picture that seems to be emerging is that immunosuppressive chemotherapy used alone may be the most advantageous. The single most effective drug is azathioprine and experts agree that this drug should not be stopped for more than a day. Secondary agents are then used at periods of maximal rejection response. Agents most frequently used are azaserine, actinomycin C and prednisone.^{45, 57}

From the technical standpoint gentle handling of the transplanted kidney and rapid revascularization are of prime importance. Cadaver kidney transplants have

been less successful than kidneys from living donors, probably because of the prolonged ischemia in the former. Major and minor blood group compatibility and close familial relationship are desirable.⁵⁷

While kidney homografting has progressed rapidly in the past decade, there are still numerous problems, the most important being a continuing lack of adequate basic understanding of the immune response and how to successfully alter it.

Glossary

Actively acquired immunity—The formation of antibodies and reactive lymphoid cells to an antigenic stimuli.

Adoptive immunity—The transfer of immunity or hypersensitivity from a sensitized animal to a non-sensitized isogenic animal using lymphoid cells.

Arthus reaction—A marked inflammatory response, especially within vessel walls, resulting from formation of antigen-antibody aggregates when antigen is reintroduced either locally or systemically into an animal with circulating precipitating antibodies.

Autograft (Autotransplant)—Tissue transferred by grafting from one position to another on the same animal.

Chimera—Simultaneous existence of genetically different tissues within the same animal.

Clone—A group of cells or organisms with identical hereditary constitution that have arisen from a single cell or organism by asexual reproduction.

Delayed type hypersensitivity—A slowly evolving allergic reaction dependent on sensitized cells, primarily lymphocytes, and independent of circulating antibody. Example: tuberculin hypersensitivity.

Heterograft (heterotransplant) (Xenograft)—Tissue transferred by grafting to an animal of different species.

Heterotropic transplant (graft)—Tissue transplanted to an anatomically different site.

Histocompatibility genes—Genes whose specific end-products can elicit an immune response and thus cause rejection of homo and heterografts.

Homograft (homotransplant) (allograft)—Tissue transferred from one animal to a genetically different animal of the same species.

Homostatic transplant—A transplant that does not survive as viable tissue but serves as a temporary framework to be replaced by host tissues.

Homovital transplant—A transplant that must remain viable and functional to be successful.

Hypersensitivity versus immunity—Both terms indicate an altered immunological reaction to antigenic stimuli. In both there is an increase in antibodies or sensitized lymphocytes. The terms differ in the effect apparently produced on the host. Hypersensitivity implies an increased reactivity to the antigenic stimuli while immunity indicates a decreased reactivity due to protective effects of the antibody (or sensitized cells). Actively acquired immunity as applied to

tissue transplantation may also be considered as hypersensitivity.

Immunological paralysis—Failure of the normal specific immunological response as a result of previous contact with excessive doses of the same antigen.

Immunological tolerance (actively acquired)—Failure of the normal specific immunological response as a result of contact with antigenic material during the fetal period.

Immunologically competent cells—Mesenchymal cells able to respond to contact with any particular antigenic determinate by developing specific immunologic capacity.

Isograft (syngeneic graft)—A tissue transplant to a genetically identical animal of the same species as the donor.

Orthotropic transplant (graft)—Tissue transplanted to a position previously occupied by the same kind of tissue.

Parabiosis—Union of two animals surgically or at birth as in the case of joined twins.

References

- Alexandre, G. P. J.; Murray, J. E.; Dammin, G. J.; and Nolan, B.: Immunosuppressive drug therapy in canine renal and skin homografts. *Transplantation*, 1:432, 1964.
- Amos, D. B.: Possible relationships between the cytotoxic effects of isoantibody and host cell function. *Ann. N. Y. Acad. Sci.*, 87:273, 1960.
- Anderson, D.; Billingham, R. E.; Lampkin, G. H.; and Medawar, P. B.: The use of skin grafting to distinguish between monozygotic and dizygotic twins in cattle. *Heredity*, 5:379, 1951.
- Baker, R.; Gordon, R.; Huffer, J.; and Miller, G. M.: Experimental renal transplantation. I. Effect of nitrogen mustard, cortisone and splenectomy. *AMA Arch. Surg.*, 65:702, 1952.
- Billingham, R. E.: Transplantation: Past, present and future. *J. Invest. Derm.*, 41:165, 1963.
- Billingham, R. E. and Brent, L.: Quantitative studies on tissue transplantation immunity. IV. Induction of tolerance in newborn mice and studies on the phenomenon of runt disease. *Philos. Trans. Roy. Soc. Lond.*, B, 242:438, 1959.
- Billingham, R. E.; Brent, L.; and Medawar, P. B.: Actively acquired tolerance of foreign cells. *Nature*, 172:603, 1953.
- Billingham, R. E.; Brent, L.; and Medawar, P. B.: Quantitative studies on tissue transplantation immunity. *Philos. Trans. Roy. Soc. Lond.*, B, 239-357, 1956.
- Billingham, R. E. and Silvers, W. K.: Sensitivity to homografts of normal tissues and cells. *Ann. Rev. of Microbiol.*, 17:(in press), 1963.
- Billingham, R. E. and Silvers, W. K.: Studies on cheek pouch skin homografts in the Syrian hamster. In: G. E. W. Wolstenholme and M. P. Cameron, eds., *Transplantation*, Little Brown and Co., Boston, 90-107, 1962.
- Brent, L.: Tissue transplantation immunity. In: P. Kallos, ed., *Progress in Allergy*, 5:271-348, S. Karger, New York, 1958.
- Brent, L. and Medawar, P. B.: Tissue transplantation: a new approach to the "typing" problem. *Brit. Med. J.* 2:269, 1963.
- Brooks, D. B.; Heiple, K. G.; Herndon, C. H.; and Powell, A. D.: Immunological factors in homogenous bone transplantation. IV. The effect of various methods of preparation on antigenicity. *J. Bone and J. Surg.*, 45-A:1617, 1963.
- Burnet, M.: *The Clonal Selection Theory of Acquired*

Immunity. Abraham Flexner Lectures. Nashville, Vanderbilt University Press, 1959.

15. Burnet, F. M. and Fenner, F.: *The Production of Antibodies.* Melbourne, The Macmillan Co., 1949.

16. Calne, R. Y.: Renal transplantation in man: a review. *Brit. J. Surg.*, 51:282, 1964.

17. Campbell, J. B.; Bassett, C. A. L.; and Bohler, J.: Frozen irradiated homografts shielded with microfilter sheaths in peripheral nerve surgery. *J. Trauma*, 3:302, 1963.

18. Dammin, G. J.; Couch, N. P.; and Murray, J. E.: Prolonged survival of skin homografts in uremic patients. *Ann. N. Y. Acad. Sci.*, 64:967, 1957.

19. Dougharty, T. F.; Berliner, M. L.; and Berliner, D. L.: Hormonal influence in lymphocyte differentiation from RES cells. *Ann. N. Y. Acad. Sci.*, 88:78, 1961.

20. Good, R. A.; Varco, R. L.; Aust, J. B.; and Zak, S. J.: Transplantation studies in patients with agammaglobulinemia. *Ann. N. Y. Acad. Sci.*, 64:882, 1957.

21. Goodwin, W. E., et al.: Human renal transplantation. I. Clinical experiences with six cases of renal homotransplantation. *J. Urol.*, 89:13, 1963.

22. Goodwin, W. F. and Martin, D. C.: Transplantation of kidney, Read before the American Urological Association, St. Louis, May 15, 1963, *J. Urol.*, to be published.

23. Hamburger, J., et al.: Renal homotransplantation in man after radiation of recipient: experience with six patients since 1959. *Am. J. Med.*, 32:854, 1962.

24. Felton, L. D.: The significance of antigen in animal tissue. *J. Immunol.*, 61:107, 1949.

25. Hardin, C. A. and Werder, A. A.: Acquired tolerance by repeated parabiosis. *Surgery*, 51:370, 1962.

26. Hardy, James D., et al.: Heart transplantation in man. *J.A.M.A.*, 188:1132, 1964.

27. Hardy, J. D., et al.: Lung homotransplantation in man: report of initial case. *J.A.M.A.* 186:1065, 1963.

28. Hume, D. M.; Merrill, J. P.; Miller, B.; and Thorn, G. W.: Experiences with renal homotransplantation in the human: report of nine cases. *J. Clin. Invest.*, 34:327, 1955.

29. Humphrey, J. H. and White, R. C.: *Immunology for Students of Medicine.* Philadelphia, F. A. Davis, 1963.

30. Jacob, S. W. and Dunphy, J. E.: "Successful" parathyroid transplantation. *Amer. J. Surg.*, 105:196, 1963.

31. Kuss, R.; Legrain, M.; Mathe, G.; Nedey, R.; and Camey, M.: Homologous human kidney transplantation: experience with six patients. *Postgrad. M. J.*, 38:528, 1962.

32. Levey, R. H.: The thymus hormone. *Scientific American*, 211:66, 1964.

33. Lillie, F. R.: The theory of the free-martin. *Science*, 43:611, 1911.

34. Little, C. C.: The genetics of tissue transplantation in mammals. *J. Cancer Res.*, 8:75, 1924.

35. Medawar, P. B.: The homograft reaction. *Proc. Roy. Soc., Lond.*, B, 149:145, 1958.

36. Merrill, J. P.: Tissue transplantation. *Ann. Intern. Med.*, 55:846, 1961.

37. Merrill, J. P.; Murray, J. E.; Takacs, F. J.; Hagar, E. B.; Wilson, R. E.; and Dammin, G. J.: Successful transplantation of kidney from a human cadaver. *J.A.M.A.* 185:347, 1963.

38. Metcalf, D.: Thymic lymphocytosis-stimulating factor. *Ann. N. Y. Acad. Sci.*, 73:113, 1958.

39. Miller, J. F. A. P.: Immunity and the thymus. *Lancet*, 1:43, 1963.

40. Miller, J. F. A. P.: Role of the thymus in immunity. *Brit. M. J.*, 2:459, 1963.

41. Miller, J. F. A. P.: Role of the thymus in transplantation tolerance and immunity. In: G. E. W. Wolstenholme and M. P. Cameron, ed., *Transplantation*, Boston, Little Brown and Co., 1962, 384-397.

42. Mitchison, N. A.: Passive transfer of transplantation immunity. *Proc. Roy. Soc. Lond.*, s.B, 142:72, 1954.

43. Moore, Francis D.: New problems for surgery. *Science*, 144:388, 1964.

44. Murray, J. E.; Merrill, J. P.; Dammin, G. J.; Dealy, J. B.; Alexandre, G. W.; and Harrison, J. H.: Kidney transplantation in modified recipients. *Ann. Surg.*, 156:337, 1962.

45. Murray, J. E.; Merrill, J. P.; Harrison, J. H.; Wilson, R. E.; and Dammin, G. J.: Prolonged survival of human kidney homografts by immunosuppressive drug therapy. *New Eng. J. Med.*, 268:1315, 1963.

46. Owen, R. D.: Immunological consequences of vascular anastomoses between bovine twins. *Science*, 102:400, 1945.

47. Reemtsma, K.; McCracken, B. H.; Schlegel, J. U.; and Pearl, M.: Heterotransplantation of the kidney: two clinical experiences. *Science*, 143:700, 1964.

48. Reich, E.; Franklin, R. M.; Shatkin, A.; and Tatum, E. L.: Effect of actinomycin D. on cellular nucleic acid synthesis and virus production. *Science*, 134:556, 1961.

49. Rob, C.: Arterial homografts. In: S. A. Wesolowski and C. Dennis, ed., *Fundamentals of Vascular Grafting*, New York, McGraw-Hill, 348-355, 1963.

50. Rubin, A. L.; Stenzel, K. H.; Hirschhorn, K.; and Bach, F.: Histocompatibility and immunologic competence in renal homotransplantation. *Science*, 143:815, 1964.

51. Russell, P. S. and Monaco, A. P.: The biology of tissue transplantation. *New Eng. J. Med.*, 271:502, 533, 610, 664, 718, and 776, 1964.

52. Schwartz, R. and Dameshek, W.: Drug induced immunologic tolerance. *Nature*, 183:1682, 1959.

53. Sercarz, E. and Coons, A. H.: Specific inhibition of antibody formation during immunological paralysis and unresponsiveness. *Nature*, (London) 184 (Suppl. 14):1080, 1959.

54. Snell, G. D.: Methods for the study of histocompatibility genes. *J. Genetics*, 49:87, 1948.

55. Snell, G. D.: The genetics of transplantation. *J. Nat. Cancer Inst.*, 14:691, 1953.

56. Snell, G. D.: The homograft reaction. *Ann. Rev. Microbiol.*, 11:436, 1957.

57. Starzl, T. E.; Marchioro, T. L.; Brittain, R. S.; Holmes, J. H.; and Waddell, W. R.: Problems in renal homotransplantation. *J.A.M.A.*, 187:734, 1964.

58. Starzl, T. E.; Marchioro, T. L.; vonKaulla, K. N.; Hermann, G.; Brittain, R. S.; Mueller, J. F.; Witten, T. A.; and Waddell, W. R.: Homotransplantation of the liver in humans. *Surg. Gynec. and Obst.*, In press.

59. Taliffaro, W. H.: The possible role of cortisone in overcoming resistance to the growth of human tissues in heterologous hosts. *Ann. N. Y. Acad. Sci.*, 59:745, 1957.

60. Winchell, H. S.; Pollycone, M.; Richards, V.; and Lawrence, J. H.: Selective irradiation of lymphatic tissue in preparation for tissue homografting. *Am. J. Surg.*, 105:177, 1963.

61. Woodruff, M. F. A.: *The Transplantation of Tissues and Organs*, Springfield, Ill., Charles C Thomas, 1960.

THE QUEST FOR QUALITY IN DRUGS

As many studies show, all drug products having the generic name are not identical. Some generic-name drug products are of excellent quality; some are not. Unless the product (whether marketed under generic or brand name) is made by a reputable and qualified manufacturer, there is absolutely no way to tell which is good and which poor—before it is used—without the use of analytical and biological facilities more elaborate than most physicians, pharmacists and hospitals are likely to possess. A. E. Slessor, Ph.D., in *Arizona Medicine*, 22:826, October, 1965.

Do not show your wounded finger, for everything will knock up against it.—Baltasar Gracián

Viral Stomatitis

A Treatment for Viral Stomatitis

**WILLIAM F. McGUIRE, M.D., and
HERBERT R. GOLDBERG, M.D., Wichita**

HERPETIC GINGIVOSTOMATITIS, the herpangina syndrome and isolated aphthous ulcers are disease entities commonly encountered in pediatric practice. The viral etiology of these lesions has been generally established. Treatment has always been supportive and expectant. No reliable definitive therapy has been developed. The clinical length of illness is variable, as is severity.

We have recently had an effective experience in the treatment of these illnesses with metronidazole (*Flagyl*®, G. D. Searle & Co.), a known trichomonacide. Small doses of one-half tablet once or twice a day according to age and size, for a course of up to three days, has produced speedy clinical remission in all cases tested to date. Patients and parents report clinical improvement, usually after one to two doses.

Flagyl is considered highly trichomonacidal in low concentration. It is readily absorbed from the gastrointestinal tract. It is considered an essentially innocuous drug. Side effects are reported as minimal. The drug should be withheld from patients with evidence of, or a history of, blood dyscrasia or patients with active disease of the central nervous system. The manufacturer states that the drug is not known to be effective against organisms other than *Trichomonas vaginalis*.

The definite clinical effect noted in our experience cannot be easily ignored or explained. It is known that the incidence of *Trichomonas tenax* is 10 to 20 per cent in some populations. *Trichomonas tenax* is generally considered a harmless commensal inhabitant in the mouth cavity. It might be postulated that the herpes simplex virus and some Coxsackie types A

and B, and ECHO viruses may have localized infection potentiated and perhaps manifested by the presence of *Trichomonas tenax* in the mouth cavity. The possibility exists that a dual, mixed infection is established, with the ulcerative phase representing the end product.

This paper reports the use of metronidazole (*Flagyl*) in the treatment of herpetic stomatitis, a most distressing syndrome, and suggests a theoretical explanation of its apparent success.

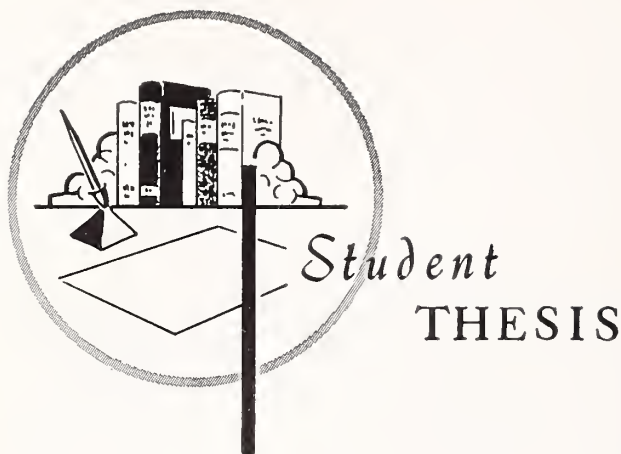
By interfering with this reaction, *i.e.*, eradicating the *Trichomonas tenax* organisms; which we believe are destroyed by Flagyl; the clinical entity resolves with greater speed than would ordinarily be anticipated. At present, this remains only theoretical. Clinical investigation will be forthcoming. *Trichomonas tenax* will have to be demonstrated before treatment and its presence rechecked for after therapy.

At this time we would like to share our clinical impression with our medical colleagues. We hope that further reports on this topic will be forthcoming.

References

1. Krugman, S. and Ward, R.: Infectious Diseases of Children, St. Louis, C. V. Mosby Co., 3rd Ed., 1964.
2. Langley, L. L.: McGraw-Hill, Outline of Physiology, 1961.
3. Physicians Desk Reference, Medical Economics, Inc., 19th Ed., 1965.





Malignant Tumors of the Nasopharynx

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THE PURPOSE OF THIS THESIS is to describe the area of the nasopharynx, and the most common malignancies that arise from it.

The main reason that provoked this undertaking is that nasopharyngeal tumors are often poorly understood. This deficiency can be traced back to medical school days. Then the average student spends little time on pharyngeal lesions, primarily because he thinks the tumors occur too infrequently to be of great concern. Consequently, the general physician tends to misdiagnose these lesions when he sees them in practice. As a result, many potentially curable cases are beyond any treatment except palliation when finally correctly diagnosed.

The most common malignancies of the nasopharynx originate from the epithelium lining the cavity. Epidermoid carcinoma arises from squamous cells in the posterior-inferior portion and from ciliated columnar cells in the anterior-superior area, while a so-called transition cell tumor originates in the mid-zone region. Germinal centers beneath the epithelium may produce lymphomas. In the past it was believed that epithelial cells may degenerate malignantly and join lymphoid elements to form specific tumors called lymphoepitheliomas. Sarcomas rarely arise from con-

nective tissue elements. In order to study all these malignancies, it is necessary to briefly consider the anatomy, topography, and histology of the nasopharynx.

Anatomy

The nasopharynx is a small cavity about 4 cm high, 4 cm wide, and 2 or 3 cm in its antero-posterior axis. Because of its topographic location above the palate, and behind the nose and nasal cavities, this area is often bypassed by students of anatomy. The superstructures enclosing this cavity are: superiorly and anteriorly, the body of the sphenoid; superiorly and laterally, the apex of the petrous portion of the temporal bone and the root of the wing of the sphenoid; medially, the basilar process of the occipital bone; and, posteriorly, the bodies of the two upper cervical vertebrae. Anteriorly, the nasopharynx communicates freely, through the choane, with the nasal cavity. Inferiorly, its floor is produced by the soft palate. These structures give insertions to the pharyngeal fascia, which in turn offers support to the nasopharyngeal and palatal muscles, as well as bracing the internal, cartilaginous portions of the eustachian tubes. On each lateral wall of the nasopharynx, the tube forms a prominent eminence called the torus. At the apex of this prominence is the nasopharyngeal orifice of the eustachian tube. Anteriorly, the torus gives origin to the salpingopalatine muscle, and posteriorly to the salpingopharyngeal muscle. Between the posterior portion of the torus and the latter muscle, and

* This is one of a group of theses written by fourth year students at the University of Kansas School of Medicine, selected for publication by the Editorial Board from a group judged to be the best by the faculty at the school. Dr. Reynolds is now a resident in Otolaryngology at the University of Kansas Medical Center.

the posterior wall of the nasopharynx, lies an intermediate groove, the Rosenmüller fossa.

The external surface of the pharyngeal fascia is in intimate relation to these structures, and in several locations, such as the petrosphenoidal fissure, with certain fascial compartments, including the prevertebral and retroparotid spaces.

The internal portion of the nasopharynx is covered with a mucosa which has three basic histological variations. Near the posterior openings of the nasal cavities, and superiorly in the roof of this cavity, the epithelium is a typical respiratory type. Posteriorly and inferiorly, adjacent to the oropharynx, this lining is made up of stratified squamous cells. Between these areas, an intermediate zone is encountered, with an epithelium of stratified columnar cells. Lymphocytes lie singly and in clusters beneath the entire epithelium. There is no muscularis layer, and a submucosa is present only laterally. Elsewhere the mucosa is closely adherent to the pharyngeal fascia.

One of the special anatomical features of the nasopharynx is the adenoidal tonsil, which lies within the mucosa on the posterior wall. It gives off so-called pharyngeal bands which extend laterally and inferiorly into the oropharynx. Histologically, the adenoid and bands are formed by germinal centers packed with lymphocytes.

The same malignancies can originate histologically from similar areas within the remainder of the pharynx. The oropharynx, such an area, is limited above by the soft palate and below by the base of the tongue and tip of the epiglottis. Laterally, it contains the so-called pharyngeal tonsils. These lymphoidal structures lie deep in the pharyngeal fossae which are bounded anteriorly by the glossopalatine fold, formed by muscle and covering epithelium, and by the similar pharyngopalatine fold posteriorly. Stratified squamous epithelium covers the entire oropharynx, similar to the arrangement seen in the nasopharynx, except that there are smaller numbers of lymphocytes.

The nerve supply for the nasopharynx and oropharynx arises from the pharyngeal plexus, which contains sensory fibers from the glossopharyngeal nerve and motor fibers from the vagus. Intermingled with these are communicating rami from the superior cervical sympathetic ganglion.

The nasopharynx and oropharynx receive arterial blood from the external carotid, via its ascending pharyngeal, facial, and internal maxillary branches. Venous drainage is conveyed through branches of the internal and external jugular veins. The lymphatics of the nasopharynx go principally to the prevertebral and spinal accessory nodes, while the oropharyngeal lymphatic stream drains into the submandibular and jugular nodes.

Pathology

Most of the primary lesions of the nasopharynx are difficult to detect because of their small size. They are usually flat, smooth, and sessile, but they can be granular and polypoid. Ulcerative lesions occur rarely, and usually only in the more advanced cases.

It is a fact that the pathologist is hard-put to classify malignancies of the nasopharynx. There are two main reasons. First of all, biopsies of this area often produce only small pieces of tissue, difficult both to process and to examine. Secondly, these malignancies show such an amount of pleomorphism that some cases show malignancies of assorted types within different areas of the same tumor.

The *squamous cell* variety of epithelial tumor is by far the most commonly encountered. It offers the well-known picture of a well-to-poorly differentiated squamous cell carcinoma.

Somewhat more difficult to discriminate are two other entities. The so-called *transitional cell carcinoma* consists of groups of large, pale epithelial cells with malignant characteristics, surrounded by lymphocytes, and contained in a fibrous stroma. *Lymphoepithelioma's* (Figures 1, 2) epithelial elements are similar. They have indistinct outlines, and group themselves in such a manner that they resemble a syncytium; no intercellular bridges can be seen with a light microscope. Their nuclei are large, round, pale, and vesicular, and usually contain one or two nucleoli. The amount of chromatin is small, but mitoses are very frequent. These cells are also encountered in close relationship with lymphoidal cells. However, in contrast to transitional cell carcinoma, lymphocytes are intimately mixed with epithelial cells, rather than surrounding them; opposed to the former tumor, lymphoepithelioma's stroma is scanty and not fibrous (Figure 3).

Some authors have attempted to distinguish histological variations of lymphoepitheliomas. Regaud described a distinctive variety composed of small groups of cells packed with so many lymphocytes that the picture almost resembled sarcoma or occasionally lymphoma. Schmincke described another type in which large masses of epithelial cells were encountered in trabeculae and columns, mixed with smaller number of lymphocytes. In spite of these attempts at differentiation into separate entities, new studies, particularly with the electron microscope, are showing that both transitional cell carcinoma and lymphoepithelioma are merely variants of squamous cell carcinoma. When these tumors are examined with the electron microscope, they reveal minute keratin whorls and segments, which are unavoidably missed by the light microscope (Figure 4).

Infrequently, the same malignancies arise from

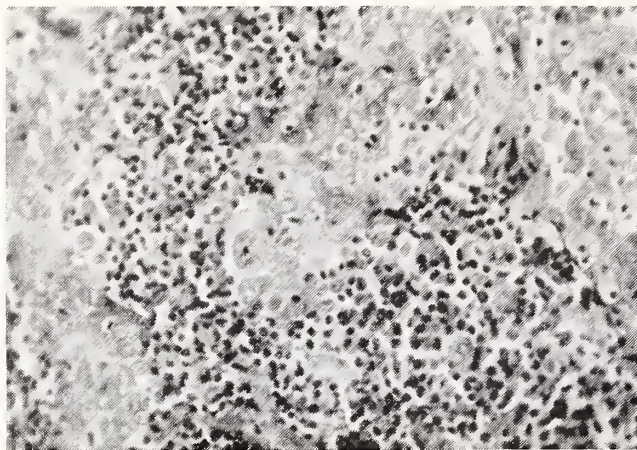


Figure 1. Regaud type lymphoepithelioma, showing typical epithelioid cells interspersed among large groups of lymphocytes.

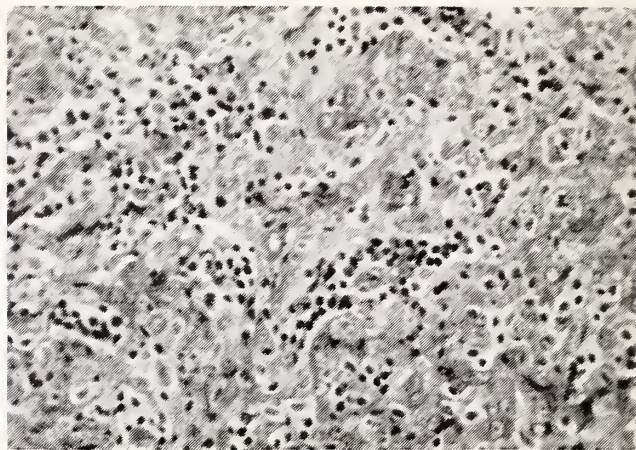


Figure 2. Schmincke type lymphoepithelioma, with large groups of epithelial cells mixed with small, scattered groups of lymphocytes.

other structures. These include the hypopharynx, base of the tongue, posterior nasal fossae, parotid and thymus glands. All these areas have a common histologic element—the close proximity of lymphocytes with epithelial cells.

Diagnosis

Diagnosis of nasopharyngeal tumors is difficult primarily because of their topographic location. However, this difficulty can increase if the general practitioner is not acquainted with the pathophysiological characteristics of these neoplasms. It is imperative that a complete history be obtained for proper diagnosis of a possible nasopharyngeal carcinoma. This should be followed by direct or indirect visualization of the nasopharynx under special instrumentation; biopsy should be taken of any suspicious lesions. In an attempt to give the salient diagnostic features of

this entity, the following paragraphs describe its natural history.

Incidence: Reports indicate that nasopharyngeal malignancies comprise approximately 15 per cent of all head and neck tumors, and from 0.5-3.0 per cent of all cancers. Four hundred fifty-six cases were seen in 20 years on the head and neck service, Memorial Hospital, New York City. These obviously are not rare lesions.

Race: For unknown reasons, carcinoma of the nasopharynx has higher incidence in certain races. This is particularly true in Indonesians and Southern Chinese. The University of Hong Kong has reported that nasopharyngeal carcinomas comprise about 18 per cent of all surgical-gynecological cancers seen there. Frequency of occurrence on Taiwan is even more im-

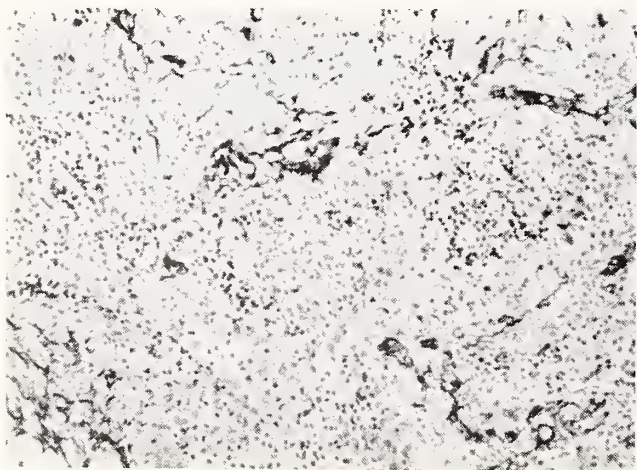


Figure 3. Reticulum stain, demonstrating the scanty amount of reticulum present in these tumors.

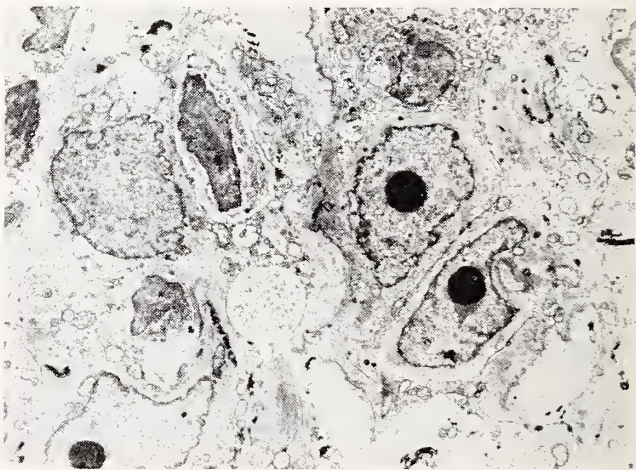


Figure 4. Photoelectronmicrograph of nasopharyngeal carcinoma. Material suggestive of squamous keratin whorls is visible between cells throughout the picture, particularly in the central portion. No keratin was seen with light microscopy, 4.25×1800 . (Courtesy of Donald J. Svoboda.)

pressive. There it is the most common malignancy afflicting the male population, and ranks second among women. Not unexpectedly, this entity has been described as more prevalent among Chinese-Americans than among the general population.

Sex: Men are more frequently attacked by this tumor than are females. Male incidence is quoted at 60 to 88 per cent with a four to one ratio the most frequently quoted number.

Age: The peak incidence of these tumors occurs in the forties for men and fifties for women. The youngest reported patient is apparently a two-year old, while the oldest patient known was 80 at diagnosis; occurrence is infrequent before the twenties.

Symptoms: The most commonly observed symptom is the presence of an asymptomatic, painless cervical adenopathy. These nodes tend to grow rapidly, frequently reaching several centimeters in diameter within a few weeks' time. More advanced cases may develop bilateral adenopathy, with a smaller metastasis on the side opposite the site of the primary lesion.

Occasionally, these tumors produce early symptoms related to invasion of the adjacent structures of the nasopharynx. Not uncommon are cases whose chief complaint is unilateral hearing loss, secondary to middle ear effusion, provoked by eustachian tube obstruction blocked and destroyed by these tumors. Anteriorly, the orifices of the nasal cavities can be invaded, producing an early clinical picture of nasal obstruction. Late symptoms are usually related to erosion of the skull, and subsequent invasion of the cranial cavity. Certain rather distinctive clinical syndromes may be produced in this manner.

The so-called petrosphenoidal group of symptoms is caused by spread via the foramina ovale and lacerum into the middle cranial fossa and subsequently to the cavernous sinus. There the perineural sheaths of the cranial nerves II, III, IV, V and VI are invaded. The patient progressively experiences lateral rectus paralysis (*Figure 5*), pain and sensory disturbances along the distribution of the ophthalmic and maxillary nerves, palpebral ptosis, mydriasis, and complete fixation of the eye from paralysis of the oculomotor and trochlear nerves. Finally, when the optic nerve is invaded, the patient will have complete blindness.

When the retroparotid space is invaded, a syndrome is caused by direct extension and invasion of the cranial nerves IX, X, XI, and XII, producing dysphagia, taste perversion, sensory disturbances within the pharynx and larynx, atrophy of the sternocleidomastoid and trapezius muscles, and deviation of the protruded tongue to the same side as the primary lesion.

If the prevertebral space is invaded and the su-

perior cervical sympathetic ganglion destroyed or affected, a Horner's syndrome may be observed.

Spread to the orbit can produce proptosis, diplopia, and corneal drying and ulceration. Isolated invasions of the maxillary divisions of the trigeminal nerve can occur, producing severe referred pain and trismus. As with most head and neck malignancies, systemic dissemination is an extremely uncommon occurrence. However, lung, liver, breasts, spleen, kidney, testicle, and bone can be invaded. The brain is not directly invaded, but may be compressed by encroaching extradural tumor.

Physical Examination: Because of the distinctive physical findings seen in patients having neoplasms of the nasopharynx, a systematized physical examination should always follow a thorough, detailed history. The following steps are essential.

First of all, a careful examination of the lymphatics of the neck should be performed, and the precise locations of any enlarged nodes noted. As a rule, nasopharyngeal malignancies metastasize to deep cervical lymphatics, and larger metastatic lesions are

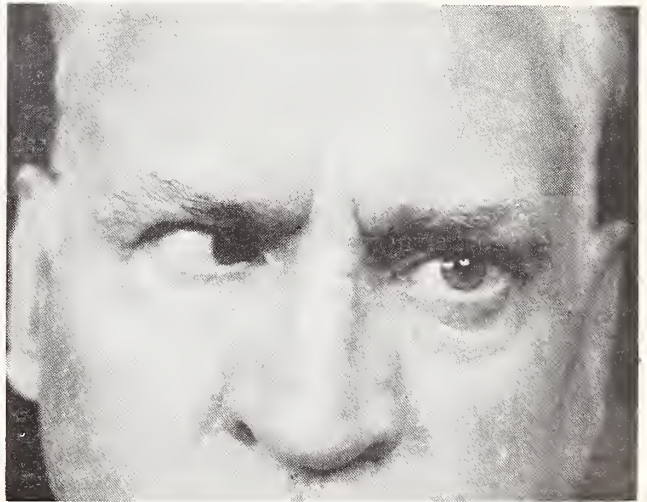


Figure 5. Patient with advanced nasopharyngeal malignancy, demonstrating left lateral rectus paralysis. The abducens (VIth) is usually the first cranial nerve to be affected by intracranial invasion.

located on the same side as the primary. Special attention should be given to the number of nodes involved, their size and induration, and their degree of fixation into adjacent tissues.

Examination of the entire pharynx and related structures is important. As a general rule, an unexplained unilateral middle ear effusion occurring in an adult should suggest nasopharyngeal malignancy and should always be accompanied by a thorough examination of the nasopharynx. The same holds true for unilateral palsies of the VIth nerve and any of the IXth to XIIth cranial nerves. Careful sensory ex-

amination may disclose early invasion of these nerves.

A proper examination of the nasopharynx is frequently avoided because of the relative inaccessibility of the area and necessity of using mirrors and reflected light for adequate visualization. However, in cases where tumors are suspected, this examination is a "must" and should be performed, employing a methodical program. First of all, an anterior rhinoscopic examination, following shrinkage of the nasal mucosa by the use of topical neo-synephrine solution can be of avail, particularly if the nasopharyngeal tumor has produced early invasion of the choane. This is done with reflected light and a nasal speculum, or with a nasopharyngoscope. Telescopic nasopharyngoscopes are available for examinations; the equipment is analogous to urologic endoscopic apparatus. If the patient does not have an active gagging reflex, indirect visualization, using reflected light, may be possible. If he gags too readily, a five per cent cocaine solution may be sprayed through the nasal cavity into the nasopharynx, and through the mouth to anesthetize the palate and oropharynx. This produces adequate silence of the movements of the palate and oropharynx. Sometimes instrumentation is needed in order to retract some of the elements hiding access to the nasopharynx. Special palate retractors are available; also, two No. 12 French catheters inserted through the nose and brought out the mouth can properly retract the soft palate, to afford a convenient space for the introduction of a laryngeal mirror to inspect the nasopharyngeal space.

By far the most common radiological findings are erosion of the body of the sphenoid and basilar process of the occipital bone. The sphenoidal foramen may be increased in size, the petrous tips destroyed, and the foramina lacerum and ovale enlarged. Recently, Kirchner *et al.* have been doing studies which may be of some avail in diagnosing late cases, using intrathecal radioactive mercurhydrin followed by brain scan. These studies could be of use particularly in differentiating malignant (invasive and erosive) from non-malignant nasopharyngeal tumors.

Unquestionably, the final diagnosis of this entity is done after the pathologist acquires a piece of tissue for histological diagnosis. Biopsies of the nasopharynx require somewhat specialized steps. In primary carcinomas invading the choane, these biopsies can easily be obtained with the aid of a basket forceps introduced into the nasal cavity, with visualization via anterior rhinoscopy. Palatal retraction may be necessary to disclose the lesion for biopsy. Sometimes, general anesthesia is essential to allow sufficient tissue manipulation to be able to discover the exact location of small tumors, and to biopsy them.

If possible, biopsies of metastatic lesions of the

neck should be removed *in toto*, with a margin of grossly normal surrounding tissue. The invasive character of the tumor with the destruction of normal architecture of the nodes are the final clues for the diagnosis of these malignancies when they invade the lymph nodes. Therefore, a partial segment of a node obtained from biopsy might be insufficient for diagnosis. Aspiration biopsy is, for the reason stated above, unsatisfactory for diagnosis of either metastatic or the primary sites. Repeated biopsies are occasionally necessary, since the primary lesion may be quite small, and missed by initial biopsy attempts.

Treatment: Because of the anatomy of the nasopharynx and pharynx, *en bloc* dissection of the tumor and affected nodes is impossible. Irradiation is the treatment of choice, since the lesions are usually highly radiosensitive. Since 25 to 36 per cent of these patients survive five years with adequate therapy, these tumors deserve the most aggressive treatment that the radiologist can deliver.

Irradiation fields should be multiple and bilateral, and large enough to include both the primary and metastatic areas. The rare early case without neck metastases may be treated by head irradiation alone, using 6×8 cm fields over the preauricular area, or a 5×5 cm field for the nasal antrum. However, even with no apparent cervical lesions, effective prophylaxis demands neck irradiation, and metastases absolutely require it. Large fields, 8×10 to 10×15 cm in size, are used.

High voltage (250 kv to 1-2 megavolts) is preferable, since much of lower energy radiation is absorbed by bone, decreasing the depth dose to the tumor. Supplementary intracavitary cobalt, radium, and gold needles can be effectively used on primary sites and small, discrete metastases. High dosages are necessary with all modalities. As high as 4,000 to 5,000 r is considered an effective depth dose.

Both the tumor and metastases tend to regress with treatment, but symptoms do not always improve. For example, while tumor shrinkage may improve ear symptomatology, soft tissue edema around the eustachian orifices may exacerbate it. Also, while petrosphenoidal syndromes tend to regress, retroparotidian symptoms tend to be unchanged. Pain is usually relieved, unless the trigeminal nerve has been invaded. Some sort of palliation almost always occurs, no matter how advanced the tumor.

Side effects are typical of head and neck irradiation. These problems include epithelial and mucosal burns, dysphagia and subsequent weight loss, bony necrosis (particularly with intracavitary therapy), and infrequent airway obstruction, necessitating a tracheotomy. Probably the most common sequelae are otitis media and effusion. Protracted dosage schedules may reduce the severity of these reactions.

Prognosis

Prognosis for nasopharyngeal malignancy is hard to assess. Series in the past have ascribed different survivals to assorted tumors now shown to be variants of epidermoid carcinoma. However, re-examination of reports indicate that 16.4 to 42 per cent survive five years with adequate radiation therapy, and symptoms are almost always relieved in hopeless cases.

Obviously, well confined lesions have better prognoses. Cranial nerve pareses and skull invasion are seen only in advanced cases, and bleeding is also found late, in cases with worse prognoses. The third year after treatment is crucial. If a patient can survive it, he stands a 4:1 chance of living five years. Women tend to live longer than men, but children of both sexes succumb equally rapidly. While Chinese develop the tumor more frequently, they also seem to withstand it better; 5 of 14 (36 per cent) in one series were five year survivors. The average patient of all races lives an average of 17 months without treatment, and 31 months with treatment.

K.U.M.C. Material

Because of the controversy concerning the histopathological character of nasopharyngeal malignancies, particularly lymphoepitheliomas, case records of the University of Kansas Medical Center were reviewed. Twenty cases of "lymphoepithelioma" were diagnosed in the ten-year period from 1953 through 1962. Examination of multiple sections taken from these lesions demonstrates that they are quite variable histologically, with areas ranging from anaplastic to well-differentiated squamous cell carcinoma. All, however, show a preponderance of the epithelial-lymphoid characteristics typical of this variant of epidermoid malignancy.

TABLE 1
INCIDENCE

<i>Total Cases</i>	20
Men	13
Women	7
Whites	17
Negroes	3
Men	12
Men	1
Women	5
Women	2
<i>Ages at Diagnosis</i>	
Men	15-75, mean 56.4
Women	15-80, mean 42.3

Initial and Subsequent Symptoms: On the average, 5.8 months passed from the onset of symptoms

until correct diagnosis at K.U.M.C.; repeated incorrect diagnoses were the rule for these people. During this time, other symptoms invariably developed, and the patient frequently was more concerned with these than with his original problem, when first seen here.

TABLE 2
INITIAL SYMPTOMS

<i>Total Cases</i>	20
<i>Unilateral Lymphadenopathy</i>	9
Neck	8
Neck and angle of the mandible	1
<i>Ear Symptoms</i>	7
Hypoacusia	3
Unilateral	2
Bilateral	1
Fullness	4
Unilateral	3
Bilateral	1
<i>Nasal Symptoms</i>	3
Epistaxis (bilateral)	2
Obstruction (unilateral)	1
<i>Pain</i>	1
Tonsillar area (bilateral)	1

Symptoms and Physical Findings: Thirteen patients mentioned pain, with twelve experiencing it in various parts of the neck. Ten were bothered by ear symptoms, including gradual hypoacusia in nine, effusion and tinnitus in four cases each, and dizziness in two more.

Nasal complaints were next in frequency. Five patients complained of obstructed nasal passage, and three reported a nasal vocal quality. Epistaxis was mentioned by three patients, nasal drainage and post-nasal drip by one each.

Miscellaneous complaints included dysphagia and diplopia in two patients each.

The most frequent sign was adenopathy, present in 17 out of 20 cases. The lymph node enlargement was unilateral in nine, six of whom had metastases in the neck and three of whom had swellings which at least partially overlay the angle of the mandible. Three of the patients with neck masses displayed lateral torsion of the head, secondary to massive lymph node enlargement, and complained of subjective dyspnea. Eight other patients presented bilateral neck metastases, usually greater in magnitude on the same side as the primary lesion.

Miscellaneous physical findings included cranial nerve pareses (the abducens nerve), tonsillar hypertrophy, and proptosis with secondary corneal drying in two cases each.

TABLE 3
SYMPTOMS AND PHYSICAL FINDINGS AT
DIAGNOSIS

<i>Total Cases</i>	20
<i>Lymphadenopathy</i>	17
Neck	14
Unilateral	6
Bilateral	8
Neck and jaw (unilateral)	3
<i>Ear Symptomatology</i>	10
Hypoacusia .. 8 Effusion	4
Unilateral ... 5 Unilateral	3
Bilateral 3 Bilateral	1
Drainage	3
Unilateral	1
Bilateral	2
Dizziness 2 Tenderness	
(unilateral)	1
<i>Pain</i>	13
Skull areas (unilateral)	6
Malar area	1
Mastoid	1
Top of head	1
Face	1
Masticatory muscles	1
Orbit	1
Ear (bilateral)	1
Tonsil (bilateral)	1
Throat	2
Shoulder (unilateral)	1
Back and hip (bilateral)	1
Headache (no specific localization)	1
<i>Nasal Symptomatology</i>	6
Obstruction ... 5 Epistaxis	3
Unilateral ... 4 Unilateral	2
Bilateral 1 Bilateral	1
Nasal drainage	1
Post-nasal drip	1
Nasal voice quality	2
<i>Metabolic Symptomatology</i>	19
Weight loss	5
Malaise and fatiguability	19
Mild to moderate	18
Severe	1
<i>Miscellaneous Symptomatology and Findings</i> .	8
Cranial nerve paresis (VI)	2
Tonsillary hypertrophy	2
Unilateral	1
Bilateral	1
Proptosis with secondary corneal drying ..	2
Dysplopia	2

Sites of Primaries: Primary lesions were located in a wide variety of areas, including the posterior nasal fossae and the entire pharynx. Two of the nasopharyngeal primaries were mid-line, extended into

one side, three others were mid-line and the remainder were unilateral. Homolateral septal deviation was seen with the case whose primary was in the lateral wall of the nose, and one case with a left tonsillary primary displayed uvular deviation to the right. Three cases were primary in the faucial tonsils.

TABLE 4
LOCATION OF PRIMARY LESION

<i>Total Cases</i>	20
<i>Nasopharynx</i>	12
Unilateral	7
Midline	3
Midline and one side	2
<i>Oropharynx</i>	3
Tonsil (unilateral)	3
<i>Nasal Fossa</i>	3
Floor	1
Lateral wall	1
Roof	1
<i>Hypopharynx</i>	2
Unilateral	1
Bilateral	1

Treatment: Following diagnosis, five patients were referred to their local physicians for treatment, while 15 were treated at K.U.M.C. Initial radiological therapy averaged 3,500 r at depth. A mean of 18 treatments was given, over an average of three and one-half weeks.

TABLE 5
TREATMENT

<i>Total Cases</i>	20
Treated by local physician	5
Treated at Kansas University Medical Center .	15
X-ray	6
X-ray and radium	1
X-ray and cobalt	2
X-ray and radium and cobalt	1
X-ray and previous surgery	2
X-ray and previous nitrogen mustard	1
Cobalt	1
Cobalt and previous surgery	1

Following treatment, seven primaries recurred, and lymphadenopathy redeveloped in six cases (homolaterally in five). Several lesions also spread to the skull. Masseter induration and trismus, mastoid destruction and mastoiditis, middle cerebral fossa invasion, and further cranial nerve pareses resulted. Five patients developed nasal symptoms, including mucoid or purulent discharges in four, obstruction in

three, and post-nasal drainage in one. Ear symptoms were reported by four, who complained of tinnitus, hypoacusia, repeated effusions, drainage, and pain. An unusually high number of patients developed visceral metastases. Five were affected, including three with spread to the lung, one to the thoracic vertebrae, and one to the gastrointestinal tract.

Radiation side effects were seen in all patients treated, but these problems were severe in only eight. Anorexia and weight loss were the most frequent severe problems, followed by pharyngitis, glossitis, epithelitis, alopecia, and edema.

TABLE 6

SIGNS AND SYMPTOMS SUBSEQUENT TO TREATMENT

<i>Total Cases</i>	20
Recurrence of Primary	7
Recurrence of Lymphadenopathy	6
Unilateral	5
Bilateral	1
Ear Symptoms	4
Hypoacusia	2
Unilateral	1
Bilateral	1
Drainage (unilateral)	2
Dizziness	2
Otalgia (unilateral)	2
Tinnitus (unilateral)	1
Nasal Symptoms	5
Exudates	4
Obstruction	3
Post-nasal drip	1
Radiation Side-Effects	14
Mild to moderate severity	6
Severe	8
Anorexia and weight loss	4
Neck and facial edema	3
Sore throat and pharyngitis	4
Glossitis	1
Epithelitis	1
Alopecia	1
Dysphagia	1
Nasal voice	1
Palatal fibrosis	1
Loss of sense of taste	1

Results

When this report was compiled, 15 patients were still alive, while 5 had died. Of the survivors, only 5 were free of clinical evidence of disease; 10 still had primary or secondary lesions. Survivals from the onset of symptoms have ranged from five months to eight years, four months; the average has been three years. The five apparently cured patients have all lived at

least three years since they first noted symptoms. Among those who died, survivals after symptoms began ranged from four months to two years, three months; they averaged 13 months.

TABLE 7
SURVIVALS

<i>Total Cases</i>	20
Alive	15
No evidence of malignancy	5
With primary or secondary lesion	15
Survival by sex	
Women—7 out of 7	(100 %)
Men—8 out of 13	(61.5%)
Survival by race	
White—12 out of 17	(64.4%)
Negro—3 out of 3	(100 %)
Survival by age	
0-19 1 out of 2 50%	
20-29 1 out of 1 100%	
30-39 1 out of 2 50%	
40-49 2 out of 2 100%	
50-59 5 out of 5 100%	
60-69 3 out of 3 100%	
70-80 2 out of 5 40%	
Deceased	5

The women patients in this series are particularly resistant to lymphoepitheliomas, apparently. All seven are still alive, while the five deaths all occurred to men. Patients between 40 and 70 develop the tumor more often and also appear to withstand it better. None of the patients in this age group has died from his tumor.

Conclusions

(1) Nasopharyngeal malignancies are uncommon, but not rare, lesions. Their clinical and pathologic characteristics are poorly understood. Consideration of the anatomy of the head and neck facilitates the understanding of these tumors.

(2) Most nasopharyngeal malignancies arise from its lining epithelium.

(3) Lymphoepithelioma and transitional cell carcinoma appear to be variants of epidermoid carcinoma, rather than distinct pathologic entities.

(4) Careful history taking and physical examination, including otorhinolaryngologic procedures, are essential to diagnose such tumors.

(5) Nasopharyngeal malignancy should be strongly suspected with unilateral cervical lymphadenopathy, middle ear effusion, and hypoacusia.

(6) External irradiation, preferably employing

(Continued on page 556)



Pheochromocytoma

Edited by **WILLIAM S. TIHEN, M.D.**, *Kansas City, Kansas*

Dr. Juan Carlos Nosti (Resident in Surgery):

This 45-year-old man was admitted to Kansas University Medical Center with the chief complaint of abdominal pains. The pains began nine years before admission but had become much worse in the last four months, occurring approximately two to three times per day. They were localized in the epigastrium and right upper quadrant, and radiated sometimes to the right lower quadrant, to the neck and base of the skull, and substernally. They were sharp, penetrating, sudden in onset and lasted three to five minutes. Their onset and termination were not related to any specific activity. He had lost 16 pounds weight in the last two months. He had been previously hospitalized elsewhere for a duodenal ulcer and for a myocardial infarct. Past history and review of systems were not contributory except for blurring of vision and occasional dizzy spells when standing. Physical examination was unremarkable except for Grade I arterial sclerotic retinal changes.

Dr. Stanley R. Friesen (Moderator): Was there any nausea or vomiting?

Dr. Nosti: Yes, he had some nausea and vomiting associated with the pain.

Medical Student: Was the pain colicky in nature?

Dr. Nosti: No.

Dr. Friesen: What were the heart sounds and blood pressure?

Dr. Nosti: The pulse rate was 80 beats per minute and regular and the heart sounds were normal. The blood pressure was 120/80 mm. Hg.

Medical Student: Did these pains occur at any particular time of the day?

Dr. Nosti: No. They occurred randomly any time of the day or night.

Medical Student: Was there any flushing during these episodes of pain?

Dr. Nosti: None was observed.

Dr. Friesen: Were any of these painful episodes observed during hospitalization?

Dr. Nosti: Yes. The most significant finding was a marked elevation in blood pressure to 240/100 mm. Hg. during the attacks. Immediately following, and at all times between episodes, his blood pressure was normal. An EKG taken during one of the episodes showed inversion of the T waves in leads 1, 2 and 3.

Dr. Friesen: Are there any specific laboratory tests anyone would want to order at this point?

Medical Student: An upper gastrointestinal series.

Resident in Radiology: An upper gastrointestinal series showed a deformity of the duodenal bulb but did not demonstrate a specific ulcer.

Dr. Friesen: Was the gallbladder evaluated for cholelithiasis?

Dr. Nosti: Yes. The gallbladder was poorly visualized but no evidence of cholelithiasis was seen.

Medical Student: Was a vanilmandelic acid test done?

Dr. Nosti: Yes, and the catecholamine excretion was elevated to almost 200 micrograms/24 hours.

Dr. Friesen: Why did you ask about the vanilmandelic acid?

Medical Student: Because the hypertension associated with the episodes suggests a pheochromocytoma.

Dr. Friesen: So, with a diagnosis of pheochromocytoma the patient was prepared for operation. Are there any special problems relating to the anesthesiology of these patients during surgery?

Dr. Thomas Irving (Anesthesiologist): Patients

with pheochromocytoma pose some interesting problems. I was not with this patient during the operation, so cannot comment very specifically on his operative course, but I can make a few general comments. There are four special complications which can arise during and after surgery on these patients. First, many of them have a contracted blood volume due to their continuous or intermittent endogenous Levophed® (Winthrop) infusion. For this reason, smaller amounts of blood loss have greater hemodynamic significance than normally, and must be adequately replaced. Second, hypertensive crises may develop during surgery. To minimize this tendency, histamine liberating drugs and maneuvers which might precipitate a hypotensive episode are avoided. If a hypertensive crisis occurs during operation, Regitine® (Ciba) acting as an alpha-adrenergic blocking agent will effectively reduce the blood pressure. Third, the high blood levels of catecholamines can result in an increased tendency to develop ventricular arrhythmias. Theoretically then, anesthetic agents which, particularly in conjunction with catecholamines, predispose to ventricular arrhythmias should be avoided. Halogenated hydrocarbons such as cyclopropane, halothane, and chloroform are among the agents which "sensitize" the heart to catecholamine-induced arrhythmias. As a matter of practical interest, there have been a recent series of reports of successful resections using halothane and cyclopropane. Whatever their practical value, there are at least theoretical considerations which argue against the use of these agents in patients undergoing resection of a pheochromocytoma. Regitine has been used successfully in treatment of ventricular arrhythmias in these patients during operation. Finally, occasionally these patients are unable to maintain a satisfactory blood pressure following removal of the tumor and must be maintained by vasopressor infusion for 12 to 24 hours postoperatively.

Fluothane® (Ayerst) was the anesthetic agent used with this patient and the course of anesthesia was satisfactory. He experienced two hypertensive episodes which resolved spontaneously. Following removal of the tumor, his blood pressure was low, but with more than adequate blood replacement, he did well. His pressure came up rather quickly in the recovery room to normal levels.

Dr. Friesen: What were the operative findings?

Dr. Nosti: There was a tumor above the right kidney and partially behind the inferior vena cava measuring approximately $8 \times 4 \times 3$ cm. It appeared well encapsulated and was white and yellow.

Dr. William Myers (Chief Resident in Surgery): It was interesting to correlate the episodes of hypertension with the operative procedure. I explored

the left side of the abdomen first and found nothing. The first hypertensive crisis occurred during exploration of the right side of the abdomen where the tumor was located. The right adrenal gland usually has two, and sometimes three, veins emptying directly into the vena cava. The tumor in the patient was partially behind the inferior vena cava and only one vein was initially visible. This vein was ligated, but during subsequent manipulation of the tumor the second hypertensive episode occurred. After a second vein behind the inferior vena cava was located and ligated, no further hypertensive episodes occurred.

Dr. J. O. Boley (Pathologist): The tumor as we received it measured $8 \times 6 \times 4$ cm. and weighed 120 gms. Grossly (*Figure 1*) there are focal areas of hemorrhage on the capsular and cut surfaces which



Figure 1. Gross appearance of the pheochromocytoma (external surface on the left and cut surface on the right) demonstrating encapsulation, coarse trabeculation and prominent vessels in the capsule.

are probably secondary to operative manipulation. The cut surface is light pink and white.

Microscopically (*Figure 2*), a thick capsule separates the tumor from adjacent adrenal cortex. These tumors commonly arise in the adrenal medulla, but they may arise in other areas as well. I believe this tumor did arise in the adrenal medulla. The cells of this tumor, as well as sympathicoblastoma, are of neural crest origin. These tumors are sometimes called chromaffinomas because they yield a chromaffin reaction, or brown color. The substances which react with chrome salts to give the brown pigment are supposedly epinephrine, norepinephrine or a precursor substance.¹ The cells are moderately pleomorphic (*Figure 3*). Many are very large and have large nuclei, and the cytoplasm in some is very pale staining while in others it is deeply eosinophilic. The pleomorphism of the cells gives these tumors a somewhat malignant appearance and rare pheochromocytomas

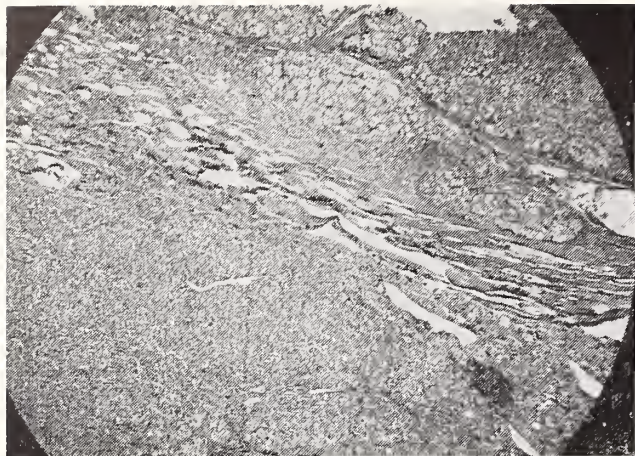


Figure 2. Low power view showing the tumor (bottom), the capsule (upper left to middle right) and the adrenal cortex (top). Note the close approximation of tumor cells to blood vessels.

are malignant. One cannot predict their behavior from the cellular morphology alone. The diagnosis of malignancy in these tumors must, therefore, be based on the presence of blood vessel invasion, capsular invasion, or distant metastases. Though in some areas the cells in this tumor approach very close to the blood vessels, no evidence of invasion into blood vessels or through the capsule is present. The white area visible grossly is an area of sclerosis.

Dr. Friesen: Dr. Boley, what do you think is the cause of pain in these patients with pheochromocytoma?

Dr. Boley: The pain is usually due to vasoconstriction and hypertension. It is usually manifest as headache but may be an epigastric constrictive sensation.

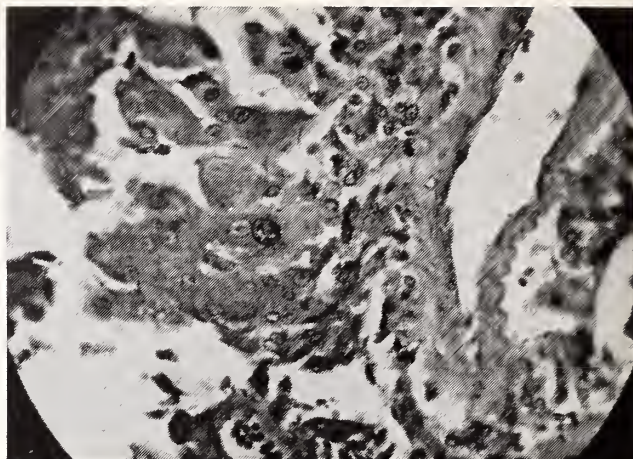


Figure 3. High power view showing variability in nuclear size and chromatin distribution in tumor cells.

In some patients, the capsule ruptures, resulting in catastrophic hemorrhage. The tumor from this patient did not show any evidence of previous hemorrhage.

His retinal changes may be indicative of rather severe hypertensive episodes even though retinal changes are usually seen only in patients with sustained hypertension.

Dr. Friesen: The pheochromocytoma, as we have been discussing today, is a tumor of neural crest origin which may produce rather striking and unusual systemic manifestations secondary to release of hormones in a paroxysmal manner.

References

1. Karsner, H. T.: *Atlas of Tumor Pathology*, Section VIII, Fascicle 29, page 45.

Student Thesis

(Continued from page 553)

megavoltage, is the treatment of choice. Intracavitary radiation is useful in certain instances but is attended by frequent radionecrosis. The anatomy of the nasopharynx and adjacent structures prevents effective surgical therapy.

(7) Increased diagnostic acumen can lead to earlier treatment. One in four patients can be cured by x-ray therapy given early in the course of the disease; the physician accordingly should watch carefully for such lesions.

(8) Case material is presented, illustrating these statements.

EDITOR'S NOTE: References may be obtained by writing the JOURNAL, 315 West 4th Street, Topeka, Kansas 66603.

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The President's Message

DEAR DOCTOR:

The date for the special session of the House of Delegates of the Kansas Medical Society has been set for January 16.

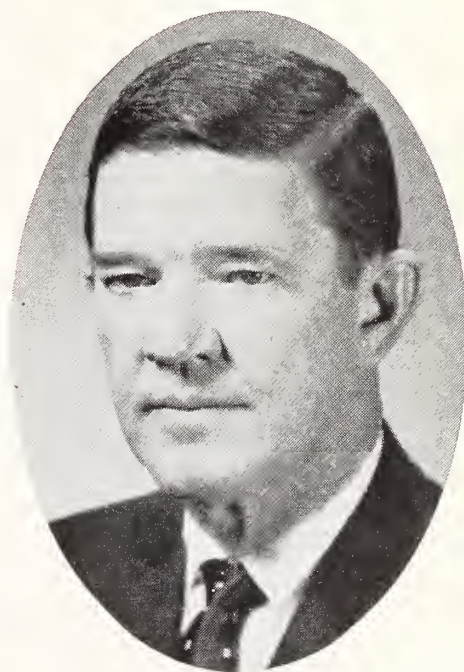
The principal item on the agenda will be the Usual and Customary Fee Schedule under Blue Shield. The AMA House of Delegates meeting in Philadelphia, this past week, discussed this issue at great length. The resolution which was adopted at that meeting will be made available to the membership of the KMS before January 16.

Best Wishes for a Happy Holiday Season.

Sincerely,

George Burkett, Jr., M.D.

President





Editorial COMMENT

House of Delegates

On Sunday, January 16, 1966, a special session of the House of Delegates of this Society will convene in Topeka. It is called by the president to determine whether Blue Shield shall abolish fee schedules and pay the physician his usual charges.

Should the Society recommend this change, it is presumed Blue Shield will request physicians to record the charges they make to their patients for the professional services most frequently performed. Blue Shield would thereafter pay those fees. Built into the proposal are provisions for paying additional fees in individual situations which require extra service and for revisions when the physician alters the fees charged all his patients.

Involved are a variety of problems which must be weighed by the delegates. This change will increase rates to subscribers, but they will gain service benefits. The proposal will have a long range effect of creating a single state-wide system of charges because physicians with charges above the established maximums will not be eligible to participate. It is predicted there will be few physicians so affected and then usually only a few procedures will be involved. Moreover, the final decision will be a judgment matter with the controlling argument continuing to be Blue Shield's desire that every physician shall be eligible to participate.

If the entire state is grouped into a single unit for establishing the average, as is now contemplated, a single state-wide subscription rate would penalize subscribers obtaining services in low charge areas, should such be found to exist. Preliminary studies indicate charge variations are not great between geographical divisions, but this cannot be known with certainty until cost figures have been filed. It is further cited that the public travels widely for its medical care, thus further minimizing this problem.

Moreover, there is precedence for this principle in Blue Cross.

Some questions have been raised regarding the distinction between services rendered by specialists and those in general practice. Blue Shield advises this is not a point of concern because each physician will be paid the fee he normally charges. If such distinction exists today it will be in effect under the new plan without alteration, except in the instance of the physician with normal charges above the acceptable range. As stated above, Blue Shield expects this to affect fewer than five per cent. Nevertheless, this must be weighed into the final decision.

Blue Shield intends to provide several options to the public. There will be a standard policy and a variety of rider benefits that may be selected. They may choose full coverage or a specified per cent which, of course, reduces the premium but requires subscribers to pay the remainder.

The proposal presents problems, but however it may be viewed by the delegates as to details, in theory, at least, it resolves the two great criticisms of present Blue Shield operation.

It provides predictability for the subscriber. He knows when he purchases the plan what his coverage will be and at present, except in the service contracts, this is not the case.

Secondly, it eliminates the setting of fees. True, in most present instances payment is indemnity, but that does not always mean the same thing to the physician and to his patient. Should the plan be adopted, it results in Blue Shield paying each physician what he believes his service is worth. It pays what he charges all his patients. In theory, at least, this erases one major objection physicians frequently voice regarding the interference into the private practice of medicine by third parties. If this can be made to work at all,

certainly Blue Shield is where it can best be explored. and the experiment should be worth an effort.

Reasonable Charges

Beginning July 1, 1966, perhaps 80 per cent or more of those over age 65 in this nation will have voluntarily enrolled under Part B of Public Law 89-97. As of that date, after \$50 of professional care has been given in a calendar year, 80 per cent of the remainder will be paid by the federal government.

Before that date the Secretary of Health, Education and Welfare will select a carrier to handle such claims in Kansas. This will be either a commercial insurance company or Blue Shield. The carrier, among other duties, shall take such action to assure that physician's charges "will be reasonable and not higher than the charge applicable, for a comparable service and under comparable circumstances, to the policyholders and subscribers of the carrier. . . ."

The above is quoted from the law. What this means has not yet been established. It appears in conflict with another section which states that the Federal Supplementary Medical Insurance Trust Fund shall pay ". . . 80 per cent of the reasonable charges for the services. . . ." The reasonable charge of a physician may not coincide with the charge applicable to the policyholders of the carrier. Insofar as this may be made to apply the selection of the carrier in Kansas is of importance.

However this may be resolved, it appears the physician may have three options open to him when a patient enrolled under Part B of Public Law 89-97 requests professional care.

First, the physician may advise this patient to select another physician. Second, he may treat his patient and bill him directly whatever charges he and his patient agree upon. The patient may present the receipted bill to the carrier and receive 80 per cent of whatever is established to be the reasonable charge. Third, the physician may accept the patient's assignment, bill the carrier and thereby he, the physician, will receive the 80 per cent of the reasonable charge.

Regardless of the physician's opinion about this law and its bearing upon economics or upon accepted principles of insurance, the patient who seeks care under this plan comes to him with insurance benefits. The physician will do whatever he would do today when an insured person asks for care. He accepts or rejects, as he prefers, to care for the patient or to accept the assignment. His interest is in his patient's health. The means for payment involve the patient and his carrier except, as is the case today, when the physician accepts an assignment of the patient's benefit by way of convenience.

While the details are not known as of this date, the physician's participation under the program will be his own decision and will quite possibly vary from patient to patient and from day to day. It is an individual decision for each physician to make as it relates to every patient.

Title XIX

Much of Public Law 89-97 deals with recipients of welfare and the present Kerr-Mills program. Of interest to medicine is the expanded federal participation in the cost of health care to all welfare recipients and the increased health care benefits available. As is the case for much of the law, details are yet to be prepared, but the following might hold a key to what can be expected.

The Director of Public Welfare under Health, Education and Welfare has mailed a 261 page set of TENTATIVE regulations to the director of public welfare in every state. Mr. Marvin Larson, director for Kansas, gave the Kansas Medical Society a copy. He emphasized this is not the final draft but it indicates how the program will probably operate.

Repeatedly there is found in this material statements that reflect similar opinions as in the following quotation. The subject, as was stated above, is health services for the recipients of welfare, including those who may be eligible for medical care only.

"Although the law requires that the State plan must provide for payment of reasonable cost for inpatient hospital care by July 1, 1967, States are encouraged to establish reasonable rates at the earliest date possible. Also, realistic schedules of compensation for all services, preferably commensurate with 'reasonable costs' or 'reasonable charges' and consistent with prevailing levels within the communities should be established as soon as possible."

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**Kansas Medical Political Action Committee*

DEAR DOCTOR:

You might be interested in how KaMPAC chooses a candidate to back and what is done to help him.

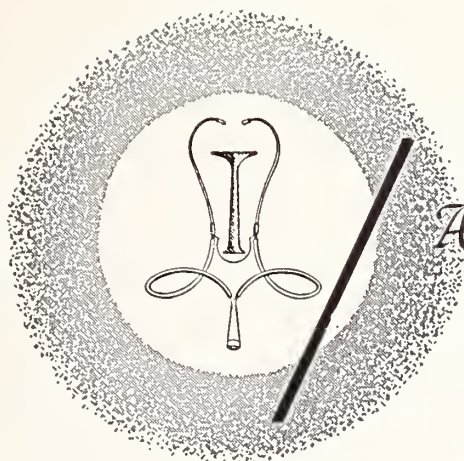
He may be a Democrat or a Republican, as KaMPAC is nonpartisan. Two members of the KaMPAC Board of Directors live in each congressional district. The doctors contact and interview the candidate. This information is brought to the next board meeting where the decision is made. Financial help is given only in those districts where the last election was marginal, the winner being less than 552 of the votes cast. Those running unopposed or who have a large margin of popularity are not supported financially any more than those who do not have a chance. Precinct assistance, as mailings, telephoning, help in registration and voting, are given to the candidate of our choice, usually by the medical auxiliary who have been invaluable. With enough money, organization, and work, our candidate will win.

This is how KaMPAC works.

Very truly yours,

John W. Warren, Jr., M.D.

Chairman, KaMPAC



Announcements

Professional meetings, conferences, and postgraduate courses of national importance are listed for the DOCTOR'S CALENDAR. Notice of the session is posted in advance to allow the physician time to make preparations.

CHRONIC DISEASES SEMINARS

Following is the program for the remaining seminars on Management of Patients with Chronic Diseases, sponsored by Kansas City's Menorah Medical Center and Danciger Institute for the Health Sciences. The seminars are held at Hammack Auditorium in Menorah Medical Center, 4949 Rockhill Road, Kansas City, Missouri.

Jan. 5-6 (Wednesday Evening, all day Thursday)
Renal Diseases

Feb. 2-3 (Wednesday, Thursday as above)
Arthritis and Skeletal Injuries

Mar. 2-3 (Wednesday, Thursday as above)
Metabolic Diseases

Registration is free, but participants will be expected to pay for meals. For further information contact William R. DeLay, The American Academy of General Practice, Volker Boulevard at Brookside, Kansas City, Missouri 64112.

JANUARY

Jan. 13-15 American College of Surgeons (sectional meeting) Americana Hotel, Bal Harbour, Florida. S. P. Harbison, M.D., Secretary, 55 East Erie, Chicago 60611.

Jan. 22-27 American Academy of Orthopaedic Surgeons, Palmer House, Chicago (members and invited guests only). John K. Hart, Exec. Secretary, 29 East Madison, Chicago 60602.

Jan. 23 Sub-committee on Kansas Female Genital Tract Cancer Death Study of the Committee on Control Cancer, Kansas Medical Society. Open to all physicians. University Room, University of Kansas Medical Center.

Jan. 31-Feb. 2 American College of Surgeons (sectional meeting), Shamrock-Hilton Hotel, Houston. S. P. Harbison, M.D., Secretary, 55 East Erie, Chicago 60611.

FEBRUARY

Feb. 2-6 American College of Cardiology, Conrad Hilton Hotel, Chicago. William D. Nelligan, Exec. Director, 9650 Rockville Pike, Washington, D. C. 20014.

Feb. 8-12 American College of Radiology (members only), Drake Hotel, Chicago. W. C. Stronach, Exec. Director, 20 N. Wacker Drive, Chicago 60606.

Feb. 21-23 American Academy of Allergy, Americana Hotel, New York. James O. Kelley, Exec. Secretary, 756 North Milwaukee, Milwaukee 53202.

MARCH

Mar. 1-3 31st Midwinter Clinical Session, Colorado Medical Society, Brown Palace Hotel, Denver. Write Colorado Medical Society, 1809 East 18th Ave., Denver 80218.

Mar. 18-19 Conference on Rural Health, Broadmoor Hotel, Colorado Springs. Bond L. Bible, Ph.D., Secretary, 535 North Dearborn, Chicago 60610.

Mar. 27-30 Missouri State Medical Association, Muehlebach Hotel, Kansas City, Missouri. T. R. O'Brien, Exec. Secretary, 634 North Grand, St. Louis 63103.

POSTGRADUATE COURSES

University of Kansas:

Jan. 20-21 *Medicine and the Law*
(Continued on page 565)



Blue Shield

The Prevailing Charge Plan— An Answer to Kansas Blue Shield's Future Goals

The Prevailing Charge concept as an answer to the need for a Blue Shield mechanism to prepay full professional charges and thereby provide the public a meaningful, high-level service benefit program is presently the subject of discussion at meetings of the 18 Councilor Districts of the Kansas Medical Society. After these meetings, a special session of the House of Delegates will convene to act upon the plan. This meeting will take place Sunday, January 16, 1966. If the House assents and sufficient individual participation is subsequently secured, it is planned to replace most present Blue Shield schedules with this program, commencing July 1 of the coming year.

The following report is designed to describe the proposed program. It tells just exactly what the Prevailing Charge Plan is, how it would work, and how it might be implemented.

The Need for a Plan That Pays Full Professional Charges

Blue Shield's primary purpose is twofold:

- To serve the public by providing a method by which they can prepay needed medical care in the most economically feasible manner.
- To be an instrument through which the medical profession may preserve the economic system under which it can best serve the public—voluntary medical care under free enterprise.

Fulfilling this twofold purpose is becoming an increasing challenge. To accomplish its objectives most satisfactorily, Blue Shield must do two things better than ever before—

Enroll more people, and retain them as satisfied subscribers.

Doing this means that the Blue Shield product must deliver that which the majority of the public wants and feels it is not presently able to purchase.

Today's major market interest lies in better predictability. People want coverage which consistently performs according to a definite set of expectations.

Most people want full predictability—or a plan which guarantees payment in full for covered services. Furthermore, the success of enrollment efforts in the recently installed Riley-Geary Special Service (pay charge) Plan indicates that the majority of subscribers are willing to pay what it costs to secure this type of coverage.

Those who don't want full predictability (and many of these are those who cannot—or feel they cannot—afford it) do want a predictably high percentage of coverage. The federal government is presently approaching the installation of the Medicare program with this in mind as they construct Part B benefits on the basis of 80 per cent coverage of professional charges after a deductible.

The Prevailing Charge Plan is designed to provide both full predictability and a variation offering a predictably high percentage of coverage. It is a method which would be compatible with the administration of Medicare benefits to the aged if Blue Shield is selected as the intermediary agent. And it is constructed to accomplish these without:

- “Fixing fees”
- Interfering with professional practice
- Inflating costs of medical care

How the Plan Works

In brief, the Prevailing Charge Plan is designed as a method by which Blue Shield, through agreements with its participating physicians, could pay in full the medical costs known to represent the professional charges of the vast majority of the medical profession while still demonstrating a reasonable safeguard against full liability for the exceptional charges made by an extremely small minority of the overall medical community. The basic premises of the plan are the following:

1. Most physicians make reasonable charges which reflect the fair value of their services to the public.
2. Most physicians' personal charges for a given service are the same for all, or nearly all, of the patients within their practice; and—if there is a charge differential—it would most likely be made on the basis that unusual or complex services were required in the performance of the procedure involved.
3. In view of these, it would be feasible to assume that each physician's professional charges could be registered with Blue Shield, *subject to change upon notice by the physician*, and the aggregate of all physicians' charge schedules could be actuarially evaluated so that rates could be offered to the public which would allow subscribers to prepay the full cost of covered services, or predictable percentages thereof.

To establish the program, each physician would submit his personal fee schedule. A "range of charges" would be derived which would array the individual charges of each physician for each commonly performed procedure.

It would be the intent that all charges for each procedure would be acceptable. However, if there were one or more charges which were in excess of the 90th percentile of physicians billing or the 90th percentile of all services performed (whichever were greater), these would be considered outside the prevailing range for that service.

Ranges would be established for each commonly performed procedure in this way. All physicians with a schedule of charges falling within these ranges would be considered participating physicians. Physicians with personal schedules in which most individual procedures were within the range—but in which a minority were not—would be eligible to become participating physicians if they were willing to discount to Blue Shield on the few procedures which were exceptional.

The premise is that there would be relatively few such instances.

Physicians with an extraordinary number of charges

for given procedures in excess of prevailing ranges would be considered Non-Participating Physicians.

Here the assumption is that few, if any, would be in this category.

WHY NOT PAY EACH CHARGE REGARDLESS OF ITS RELATIONSHIP TO PREVAILING RANGES?

It is possible that this would happen in many procedures. The intent is not to arbitrarily exclude the highest charges. Someone has to "head the list." It would be the intent to avoid liability for a charge significantly in excess of that reflecting the prevalent pattern among all Kansas physicians performing a similar service.

Here are two examples of how ranges reflecting prevailing professional charges might be established:

(1) Surgery Procedure "X"		
Charge	No. Physicians Billing	No. Times Proc. Done
\$ 90	1	2
100	5	19
110	2	5
125	11	30
130	1	4
150	28	110
175	13	29
185	3	16*
200	8*	20

(2) Surgery Procedure "Y"		
Charge	No. Physicians Billing	No. Times Proc. Done
\$ 90	1	3
100	16	39
110	4	18
125	28	77
130	11	33
150	26	91
175	5*	20
185	6	28*
200	2	14
250	1	5

* Point at which 90th Percentile falls.

In Example 1, it would be assumed that all physicians' charges were within the prevailing range. In example 2, the \$200 and \$250 charges would be considered exceptional. It would not appear to be in the interests of subscribers or—from the long range public relations' viewpoint—of physicians to accept liability for these charges.

HOW WOULD PAYMENT WORK?

Participating physicians would be paid their personally established charges for covered services. The participating physician would agree to bill charges that were the same as those made to Non-Blue Shield patients within his practice of like age, sex, and physical condition for like services. At any time, the physician could make a change in an individual charge or his entire fee schedule by notifying Blue Shield in advance.

Non-participating physicians would be covered on this basis: Payment to the subscriber according to the average payment that would have been made to a participating physician for the same service. Non-participating physicians would be free to bill patients for any difference between Blue Shield payments and their personal charges.

Services from out-of-state physicians would be compensated up to the maximum allowance available in Kansas for a given procedure in question.

WHAT ABOUT THE EXCEPTIONAL CASE?

Whenever a service was so complex as to require a variation from the participating physician's usual charge, the doctor would send Blue Shield a brief report explaining the unusual nature of the case along with the regular service statement. The case would then be studied by a Special Review Committee of practicing physicians which would recommend as to payment. As a part of the participating physician's agreement, he would agree to accept this committee's decision.

HOW THE PLAN IS DIFFERENT THAN THE RILEY-GEARY SPECIAL SERVICE PROGRAM

The major difference is that physicians would go on record in respect to their charges for frequent services before, rather than after, the fact. No physician would become involved in participation, later to find his general charge pattern was unacceptable. In other aspects there would be little difference between the plans.

The Advantages of the Prevailing Charge Plan

- A. The same advantages of the Riley-Geary Plan would exist.
 1. Blue Shield and participating physicians would provide the public with a plan of guaranteed predictability on a "paid in full" basis.
 2. The individual physician would set his personal charges.
 3. The plan is flexible in changing economic periods and the physicians would have latitude to revise charges.

4. The question of income would no longer be involved in the patient-physician/Blue Shield relationship.
5. The plan would be compatible with any reasonable method of determining charges.
6. Flexibility for individual consideration would exist.

- B. Unlike the Riley-Geary Plan, the role of professional adjudication committees would be greatly minimized.
- C. The program would be acceptable to many major interstate companies which have opposed "Blue Sky" plans but who have evidenced a desire to see a plan which—with reasonable rate safeguards—could pay professional charges in full. The Civil Service Commission's Federal Employee Plan would also like to adopt such a program for high option subscribers.
- D. There is every likelihood that the plan would be acceptable as a means of Blue Shield's underwriting Part B of the Medicare program.

Would the Plan Be Feasible If Actually Applied to Kansas Blue Shield Participating Physicians?

The essential questions are—would Kansas participating physicians support the plan and would a relatively small number be affected by the application as described (*see* How the Plan Works).

A study based upon 1964 charges by Kansas participating physicians was developed to answer these questions. Here is how the study worked and its results.

Briefly, without details, the study was designed to produce initial runs which would array charges for all the most frequent surgical, obstetrical, anesthesia, diagnostic x-ray, pathology, and in-hospital medical care services. These were arrayed on statewide and area patterns. It was later discovered that area differences were relatively insignificant and that the state could be treated as a whole.

Each procedural distribution was studied and a range maximum assigned. An individual procedural range maximum was secured by designating the charge which would cover either the 90th percentile of services or the 90th percentile of physicians billing, whichever was higher.

After this was done, runs were produced that showed how each individual participating physician's 1964 charges compared with a procedure's range maximum. Clinics and common practices were treated as a single physician. This was found possible since most common practices were shown to generally have a single charge per procedure.

These profiles were the final, key data. From them,

it was possible to see where each individual practitioner or common practice stood in relation to the prevailing range of charges for each procedure studied.

Determining the status of each common practice of individual doctor involved merely surveying his modal profile in comparison to range maximums.

THE RESULTS

If the 1964 frequencies and charges were to have been utilized as a means of implementing the Prevailing Charge concept, the following would have resulted:

A. Individual Physicians

Of 1,075 individual physicians, 992 (or about 92 per cent) would have all modal charges within range maximums. About eight per cent, or 83 physicians, would have some per cent of individual procedure charge modes above range maximums. Only one of these physicians would, however, have had numerous procedures over the range maximums.

B. Common Practices

Using the same criteria, applied to clinics and group practices using the Blue Shield common payment number, 90 per cent, or 72 groups, were totally within ranges; ten per cent (eight groups) being subject to negotiation on one or more procedures. None of the latter were so far removed by per cent of procedure as to indicate improbable negotiation potential.

CONCLUSION

Many of the practices which fell into the "negotiation needed" category were only involved to the extent of one to three procedures. Often there was only a slight difference. Probably at least one half of these would be readily willing to arrange a discount on the few procedures involved.

This study shows the Prevailing Charge Plan would have been feasible if applied in 1964 to charges made to Blue Shield in that year. There is little reason to feel that general patterns have changed to make this concept less feasible in 1966. Kept reasonably flexible, it appears that the concept will work.

Blue Shield's Position

The Prevailing Charge Plan has many advantages and, assuming the willingness of the Kansas medical profession to work in mutual trust with the Plan that serves it, amazingly few disadvantages. It appears probable that nearly all present participating physicians could be retained in the plan and that a meaningful example of how Blue Shield and physi-

cians can work toward better service to the public can be demonstrated.

It is Blue Shield's hope that all physicians will take advantage of every opportunity to learn the details of the plan under proposal and that local societies' instructions of delegates to the January 16 session can be made from a background of full understanding.

In order to be of all possible assistance, Blue Shield offers to furnish staff presentations during November, December, and early January to any local society requesting a program.

Announcements

(Continued from page 561)

Jan. 24-25	<i>Gynecology and Obstetrics</i>
Feb. 7-11	Postgraduate Clinical Symposia: <i>Medical Problems in Surgical Patients; Pulmonary Diseases; Office Psychiatry; Clinical Pharmacology and Therapeutics; Dermatology</i>
Feb. 14-16	<i>Radiology and Radioactive Isotopes</i>
Feb. 21-24	<i>Surgery</i>

For further information write the Department of Postgraduate Medical Education, University of Kansas Medical Center, 39th & Rainbow Blvd., Kansas City, Kansas 66103.

University of Colorado:

Jan. 16-22	<i>Annual General Practice Review</i>
Mar. 16-18	<i>Ultrasonic Diagnosis</i>

For further information write the Office of Postgraduate Medical Education, University of Colorado School of Medicine, 4260 East Ninth Avenue, Denver 80220.

University of Missouri:

Jan. 20	<i>Clinical Pathology Seminar</i>
Feb. 9-19	<i>Cardiology</i>
Mar. 2-3	<i>Impaired Lower Extremity Function</i>

For further information write the Office of Continuing Medical Education, University of Missouri, School of Medicine, Columbia, Missouri.

Much more is known about the stars than about rheumatism.—*Henry S. Haskins*

One is never entirely without the instinct of looking around.—*Walt Whitman*



Personalities—IN KANSAS MEDICINE

In November, **H. O. Marsh**, Wichita, attended the meeting of the Southern Medical Association in Houston, Texas. Dr. Marsh presented a paper at the meeting of the association's Orthopedic Section.

P. E. Hiebert, Kansas City, has been elected to a two-year term as director of the United Cancer Council. The election was held in October at the annual meeting of the organization in New Orleans.

E. J. McCreight, Elkhart, announced his retirement in October, after 40 years of medical practice.

The Kansas Association for Health, Physical Education and Recreation held its annual meeting in Salina in November. **Evalyn S. Gendel**, Topeka, was a guest speaker at the meeting.

Joseph H. Low, Coffeyville, was elected to active membership in the American Academy of General Practice in October.

Leo P. Cawley, Wichita, presented a paper at the joint annual meeting of the American Society of Clinical Pathologists and the College of American Pathologists, held in Chicago in October.

A seminar on the care of abnormal people was recently held in Salina for police officers of north central Kansas. Among those participating in the program were **Robert Haines**, Topeka, and **Mitchell Jones**, Newton.

In October, **Walter Lewin**, Newton, received word that he had been certified in psychiatry by the American Board of Neurology and Psychiatry.

Edward Campbell, Emporia, was the principal speaker at the dinner meeting of the Kansas State Student Nurses' Association, held during their annual convention in Hutchinson.

The announcement of the appointment of **Robert Wallerstein**, Topeka, as director of the Department of Research of the Menninger Foundation was made recently by **William C. Menninger**.

John N. Blank, Hutchinson, was installed as president of the Kansas Chapter, American Academy of General Practice at the group's annual meeting in Great Bend in October. Dr. Blank succeeds **Galen W. Fields** of Scott City. Other officers are **Sam Zweifel, Jr.**, Kingman, vice president; **Benjamin W. Barker**, Wichita, secretary; and **Floyd C. Beelman**, Topeka, immediate past president.

A symposium on cancer detection in office practice, moderated by Dr. Fields, was held during the second day of the meeting. Speakers for the scientific section included **Marjorie Sirridge**, Kansas City, and **Hoyt Blaylock**, Wichita. **John Jarrott**, Hutchinson, spoke on his experiences at the Stafford Memorial Hospital in Jerusalem at a luncheon meeting; **Anol Beahm**, Great Bend, presided.

In October, **Dr. and Mrs. Robert Weber**, Salina, flew to Jackson, Mississippi, to attend the annual meeting of the Mississippi Academy of General Practice. Dr. Weber was a guest speaker at the session.



Book REVIEWS

INFECTIOUS DISEASES OF CHILDREN, by Saul Krugman, M.D. and Robert Ward, M.D. Third Edition. C. V. Mosby Company, St. Louis, 1964. 423 pages illustrated. \$15.75.

This book contains a wealth of factual material of value to both the student and the clinician who see sick children and their infectious diseases. The detail, with which the well recognized infectious diseases are discussed, is adequate for the student and provides an interesting review for the practitioner. The organization of the material as to pathology, clinical manifestations and management is such that this book can also be a quick reference for factual material which is not easily found in the standard textbooks on pediatrics.

In the new chapters on respiratory diseases, the organization of the conglomerate viral agents causing respiratory infections is helpful. It provides an outline to allow some mental classification of the voluminous material in the current pediatric literature concerning respiratory infection.

From the practicing physician's viewpoint, the absence of a chapter on the mycobacterial infections is disappointing. Its inclusion would have made this a more complete reference for the average pediatrician. —R.D.P.

THE RETINAL VESSELS, by R. Seitz, M.D. (translated from the German by Fredereick C. Blodi, M.D.). C. V. Mosby Company, St. Louis, 1964. 186 pages illustrated. \$14.50.

Dr. Seitz is first assistant of the University Eye Clinic, Tubingen, West Germany. This work is a minute and accurate correlation between what one sees with the ophthalmoscope and the microscope. In over 100 cases a careful comparative ophthalmoscopic

examination, including ocular fundus drawings and photographs, is compared with the postmortem histologic studies of the same eyes. The cases include normal eyes, those with severe crossing phenomenon and occlusion of retinal veins from various vascular diseases. This book represents one of the largest studies of this type and is very well done.—B.J.A.

FUNDAMENTALS OF ORTHOPAEDICS, by John J. Gartland, M.D. W. B. Saunders Company, Philadelphia, 1965. 338 pages illustrated. \$8.00.

This book is designed primarily as a textbook for a student or as quick reference to various orthopaedic problems that may be encountered by a general practitioner.

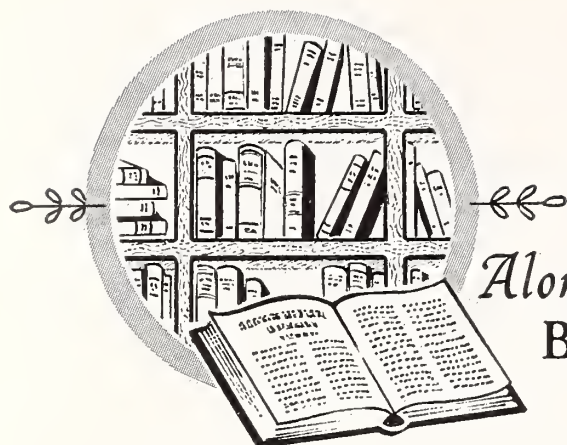
Most of the entities related to congenital defects, systemic diseases, tumors, both benign and malignant, and trauma, mostly nonfractures, are covered practically in an abstract manner.

References are available at the end of each section for further study if so desired to increase additional knowledge pertaining to the subject.

The illustrations are of good quality and plentiful throughout the book.—G.B.J.

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Along The BOOKSHELF

Clendening Medical Library

Recent Acquisitions

- Adriani, John. Techniques and procedures of anesthesia. 3d ed. Thomas, 1964.
- Albert, S. N. and others. The hematocrit in clinical practice. Thomas, 1965.
- Anderson, R. C. and Ausubel, D. P., eds. Readings in the psychology of cognition. Holt, Rinehart and Winston, 1965.
- Ayrault, E. W. You can raise your handicapped child. Putnam, 1964.
- Bacq, Z. M. Chemical protection against ionizing radiation. Thomas, 1965.
- Bailey, F. R. Bailey's textbook of histology. 15th ed. Williams & Wilkins, 1964.
- Block, M. A. Alcoholism, its facets and phases. John Day, 1965.
- Brazier, M. A. B., ed. Brain function; proceedings of the second conference, 1962. University of California Press, 1965.
- Breckenridge, M. E. and Vincent, E. L. Child development; physical and psychological growth through adolescence. 5th ed. Saunders, 1965.
- Cotes, J. E. Lung function: assessment and application in medicine. Davis, 1965.
- Cowan, S. T. and Steel, K. J. Manual for the identification of medical bacteria. Cambridge University Press, 1965.
- Crow, L. D. and Crow, Alice. Adolescent development and adjustment. 2d ed. McGraw-Hill, 1965.
- Dixon, A. S. J., ed. Progress in clinical rheumatology. Little, Brown, 1965.
- Dubos, R. J. and Hirsch, J. G., eds. Bacterial and mycotic infections of man. 4th ed. Lippincott, 1965.
- Eccles, J. C. and Schädé, J. P., eds. Organization of the spinal cord. Elsevier, 1964.
- Griffiths, J. D. and Salsbury, A. J. Circulating cancer cells. Thomas, 1965.
- Himwich, W. A. and Himwich, H. E., eds. The developing brain. Elsevier, 1964.
- Kavanau, J. L. Structure and function in biological membranes. Holden-Day, 1965. V. 1.
- Kory, R. C., Tsagaris, T. J., and Bustamante, R. A. A primer of cardiac catheterization. Thomas, 1965.
- Madding, G. F. and Kennedy, P. A. Trauma to the liver. Saunders, 1965.
- Myers, J. S., ed. An orientation to chronic disease and disability. Macmillan, 1965.
- Parsons, Sir J. H. Parsons' diseases of the eye. 14th ed. Little, Brown, 1964.
- Pool, J. L. and Potts, D. G. Aneurysms and arteriovenous anomalies of the brain; diagnosis and treatment. Harper and Row, 1965.
- Robinson, C. R. Legal pains for the healing arts (Law for doctors). Medico Legal, 1964.
- Rook, A. J. and Walton, G. S., eds. Comparative physiology and pathology of the skin. Davis, 1965.
- Rosenau, M. J. and Maxcy, K. F. Preventive medicine and public health. 9th ed. Appleton-Century-Crofts, 1965.
- Rosenfeld, H. A. Psychotic states: a psychoanalytical approach. International Universities, 1965.
- Schepens, C. L. and Regan, C. D. J., eds. Controversial aspects of the management of retinal detachment. Little, Brown, 1965.
- Simmonds, F. A. H. and Hunt, L. B., eds. Some aspects of chronic bronchitis; proceedings of a symposium. Livingstone, 1964.
- Smith, Rodney and Sherlock, Shelia, eds. Surgery of the gall bladder and bile ducts. Butterworths, 1964.
- Staats, A. W., ed. Human learning; studies extending conditioning principles to complex behavior. Holt, Rinehart, and Winston, 1964.
- Stuart-Harris, C. H. Influenza and other virus infections of the respiratory tract. Williams & Wilkins, 1965.
- Symposium on Cardiovascular Drug Therapy, Philadelphia, 1964. Cardiovascular drug therapy; the eleventh Hahnemann symposium. Grune & Stratton, 1965.

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